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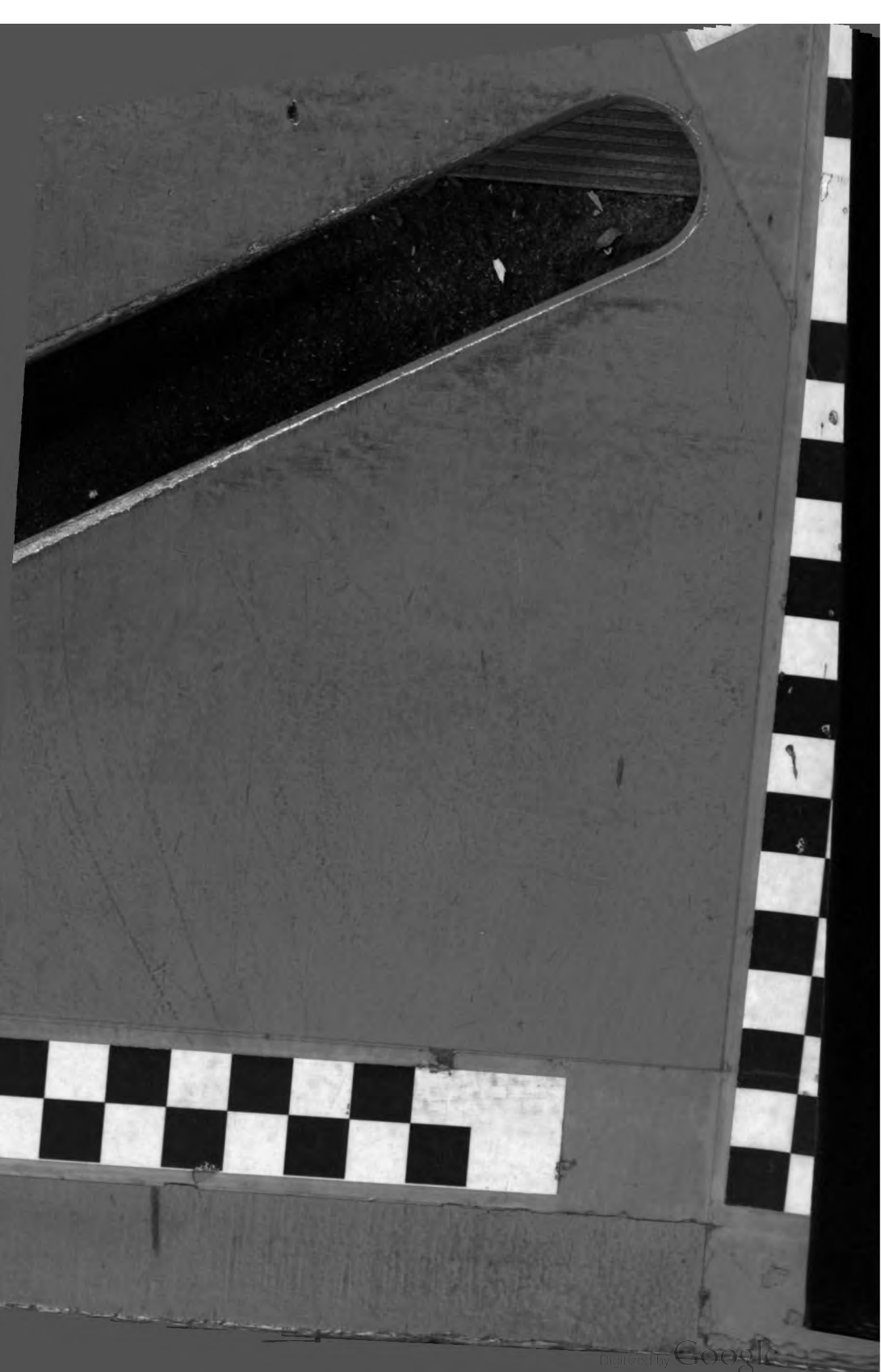
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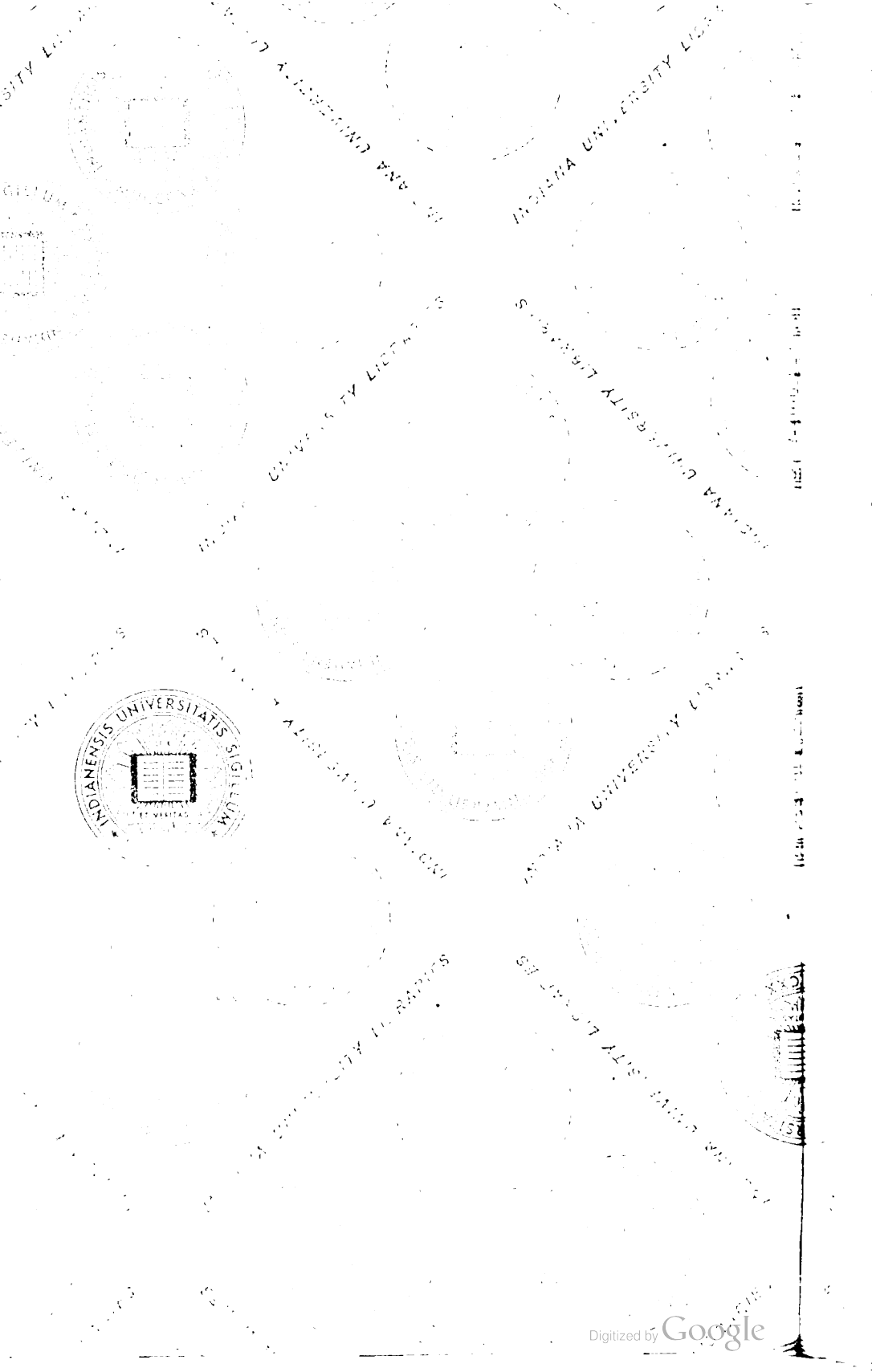
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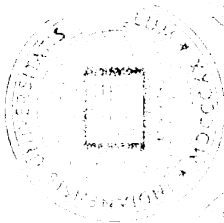






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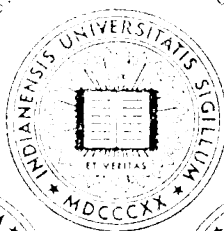
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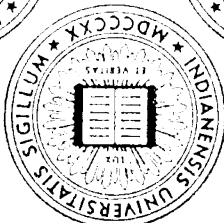
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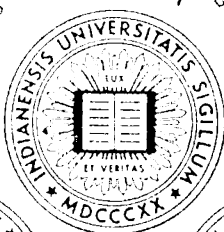
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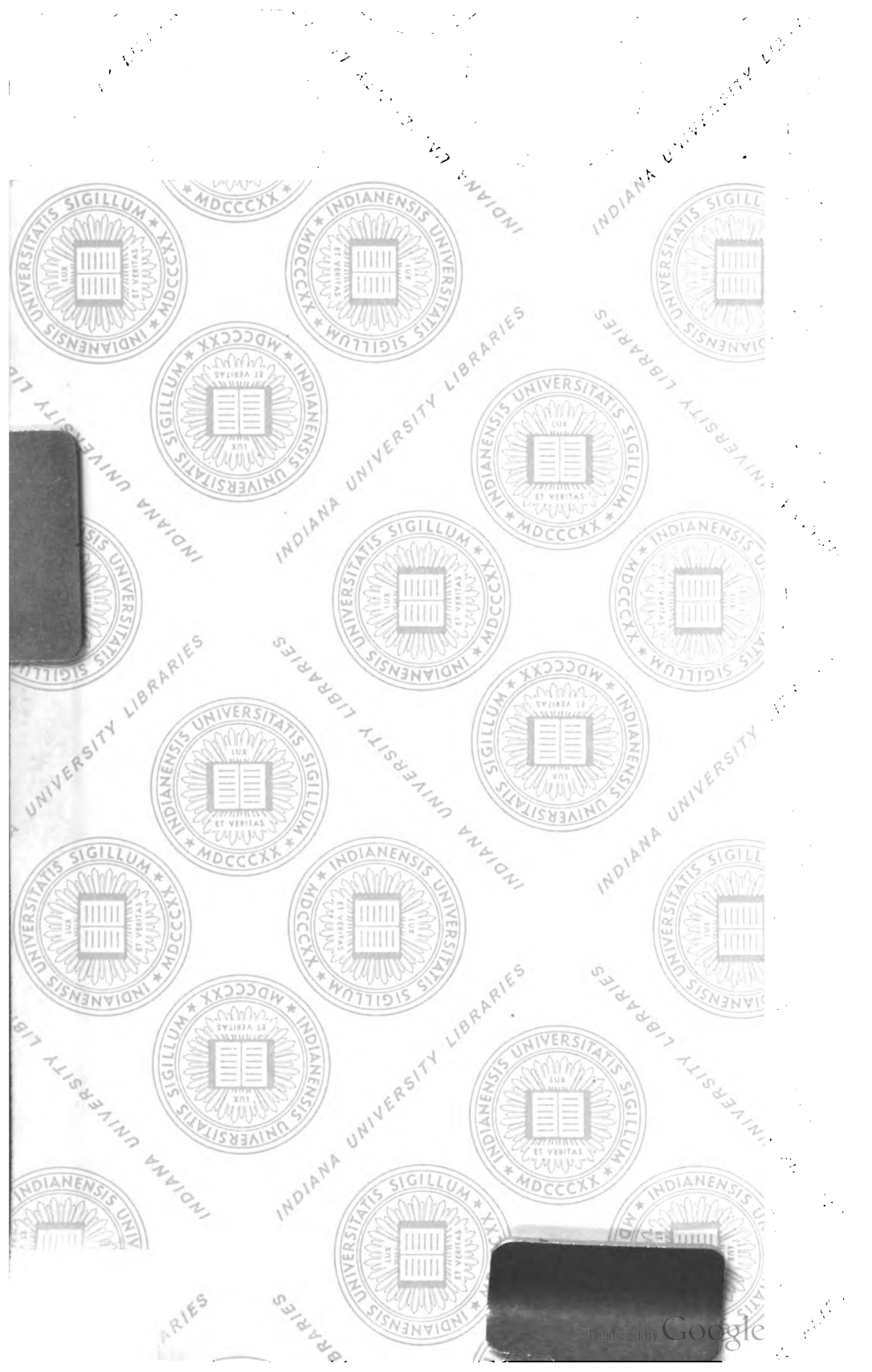
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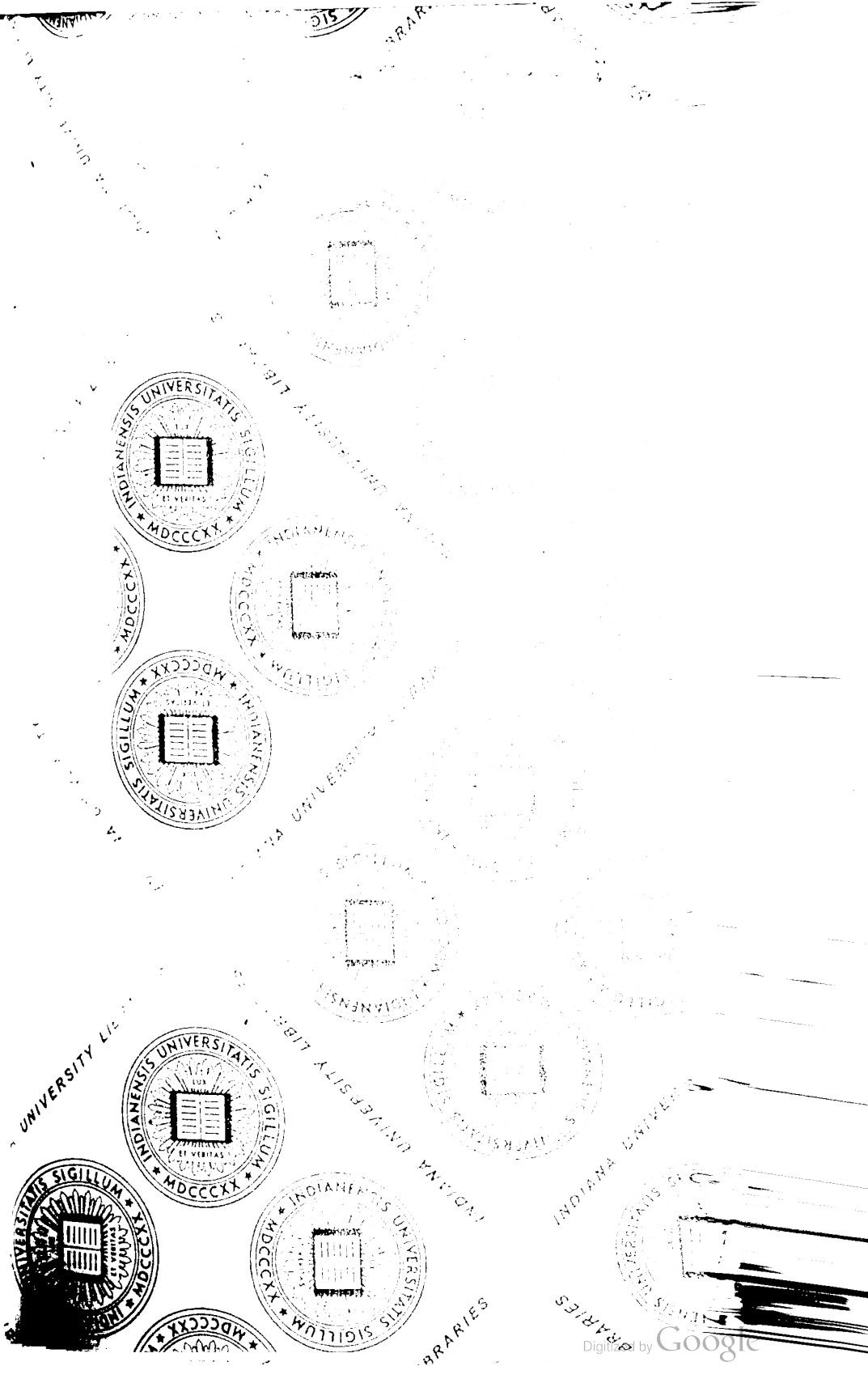


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ANNUAL REPORT
OF THE BOARD OF REGENTS OF THE
SMITHSONIAN INSTITUTION

SHOWING THE OPERATIONS, EXPENDITURES
AND CONDITION OF THE INSTITUTION FOR
THE YEAR ENDING JUNE 30

1913

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REPORT OF THE
U. S. NATIONAL MUSEUM



WASHINGTON
GOVERNMENT PRINTING OFFICE
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UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF THE SMITHSONIAN INSTITUTION,
Washington, D. C., February 27, 1914.

SIR: I have the honor to submit herewith a report upon the present condition of the United States National Museum and upon the work accomplished in its various departments during the fiscal year ending June 30, 1913.

Very respectfully,

RICHARD RATHBUN,

Assistant Secretary, in charge of the National Museum.

DR. CHARLES D. WALCOTT,

Secretary, Smithsonian Institution.

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REPORT ON THE PROGRESS AND CONDITION OF THE UNITED STATES NATIONAL MUSEUM FOR THE YEAR ENDING JUNE 30, 1913.

By RICHARD RATHBUN,
*Assistant Secretary of the Smithsonian Institution,
in charge of the U. S. National Museum.*

INCEPTION AND HISTORY.

The Congress of the United States in the act of August 10, 1846, founding the Smithsonian Institution recognized that an opportunity was afforded, in carrying out the large-minded design of Smithson, to provide for the custody of the museum of the Nation. To this new establishment was therefore intrusted the care of the national collections, a course that time has fully justified.

In the beginning the cost of maintaining the museum side of the Institution's work was wholly paid from the Smithsonian income; then for a time the Government bore a share, and during the past 37 years Congress has voted the entire funds for the expenses of the Museum, thus furthering one of the primary means "for the increase and diffusion of knowledge among men" without encroaching upon the resources of the Institution.

The museum idea was inherent in the establishment of the Smithsonian Institution, which in its turn was based upon a 10 years' discussion in Congress and the advice of the most distinguished scientific men, educators, and intellectual leaders of the Nation of 70 years ago. It is interesting to note how broad and comprehensive were the views which actuated our lawmakers in determining the scope of the Museum, a fact especially remarkable when it is recalled that at that date no museum of considerable size existed in the United States, and the museums of England and of the continent of Europe were still to a large extent without a developed plan, although containing many rich collections.

The Congress which passed the act of foundation enumerated as within the scope of the Museum "all objects of art and of foreign and curious research and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United

States," thus stamping the Museum at the very outset as one of the widest range and at the same time as the Museum of the United States. It was also fully appreciated that additions would be necessary to the collections then in existence, and provision was made for their increase by the exchange of duplicate specimens, by donations, and by other means.

If the wisdom of Congress in so fully providing for a museum in the Smithsonian law challenges attention, the interpretation put upon this law by the Board of Regents within less than six months from the passage of the act can not but command admiration. In the early part of September, 1846, the Regents took steps toward formulating a plan of operations. The report of the committee appointed for this purpose, submitted in December and January following, shows a thorough consideration of the subject in both the spirit and letter of the law. It would seem not out of place to cite here the first pronouncement of the board with reference to the character of the Museum:

"In obedience to the requirements of the charter,¹ which leaves little discretion in regard to the extent of accommodations to be provided, your committee recommend that there be included in the building a museum of liberal size, fitted up to receive the collections destined for the Institution. * * *

"As important as the cabinets of natural history by the charter required to be included in the Museum, your committee regard its ethnological portion, including all collections that may supply items in the physical history of our species, and illustrate the manners, customs, religions, and progressive advance of the various nations of the world; as, for example, collections of skulls, skeletons, portraits, dresses, implements, weapons, idols, antiquities, of the various races of man. * * * In this connexion, your committee recommend the passage of resolutions asking the cooperation of certain public functionaries, and of the public generally, in furtherance of the above objects.

"Your committee are further of opinion that in the Museum, if the funds of the Institution permit, might judiciously be included various series of models illustrating the progress of some of the most useful inventions; such, for example, as the steam engine from its earliest and rudest form to its present most improved state; but this they propose only so far as it may not encroach on ground already covered by the numerous models in the Patent Office.

"Specimens of staple materials, of their gradual manufacture, and of the finished product of manufactures and the arts may also, your

¹ Since the Institution was not chartered in a legal sense, but established by Congress, the use of the word "charter" in this connection was not correct.

committee think, be usefully introduced. This would supply opportunity to examine samples of the best manufactured articles our country affords, and to judge her gradual progress in arts and manufactures. * * *

"The gallery of art, your committee think, should include both paintings and sculpture, as well as engravings and architectural designs; and it is desirable to have in connexion with it one or more studios in which young artists might copy without interruption, being admitted under such regulations as the board may prescribe. Your committee also think that, as the collection of paintings and sculpture will probably accumulate slowly, the room destined for a gallery of art might properly and usefully meanwhile be occupied during the sessions of Congress as an exhibition room for the works of artists generally; and the extent and general usefulness of such an exhibition might probably be increased if an arrangement could be effected with the Academy of Design, the Arts Union, the Artists' Fund Society, and other associations of similar character, so as to concentrate at the metropolis for a certain portion of each winter the best results of talent in the fine arts."

The important points in the foregoing report are (1) that it was the opinion of the Regents that a museum was requisite under the law, Congress having left no discretion in the matter; (2) that ethnology and anthropology, though not specially named, were yet as important subjects as natural history; (3) that the history of the progress of useful inventions and the collection of the raw materials and products of the manufactures and arts should also be provided for; (4) for the gallery of art the committee had models in existence, and they proposed, pending the gathering of art collections, which would of necessity be slow, to provide for loan exhibitions by cooperating with art academies and societies.

In the resolutions which were adopted upon the presentation of the report, a museum was mentioned as "one of the principal modes of executing the act and trust."¹ The work was to go forward as the funds permitted, and, as is well known, the maintenance of the Museum and the library was long ago assumed by Congress, the Institution taking upon itself only so much of the necessary responsibility for the administration of these and subsequent additions to

¹ *Resolved*, That it is the intention of the act of Congress establishing the Institution, and in accordance with the design of Mr. Smithson, as expressed in his will, that one of the principal modes of executing the act and the trust is the accumulation of collections of specimens and objects of natural history and of elegant art, and the gradual formation of a library of valuable works pertaining to all departments of human knowledge, to the end that a copious storehouse of materials of science, literature, and art may be provided which shall excite and diffuse the love of learning among men, and shall assist the original investigations and efforts of those who may devote themselves to the pursuit of any branch of knowledge.

its activities as would weld them into a compact whole, which together form a unique and notable agency for the increase and diffusion of knowledge, for the direction of research, for cooperation with departments of the Government and with universities and scientific societies in America, and likewise afford a definite correspondent to all scientific institutions and men abroad who seek interchange of views or knowledge with men of science in the United States.

Since that early day the only material change in the scope of the Government Museum has been the addition of a department of American history, intended to illustrate by an appropriate assemblage of objects the lives of distinguished personages, important events, and the domestic life of the country from the colonial period to the present time.

The development of the Museum has been greatest in those subjects which the conditions of the past 60 years have made most fruitful—the natural history, geology, ethnology, and archeology of the United States, supplemented by many collections from other countries. The opportunities for acquisition in these directions have been mainly brought about through the activities of the scientific and economic surveys of the Government, many of which are the direct outgrowths of earlier explorations, stimulated or directed by the Smithsonian Institution. The Centennial Exhibition of 1876 afforded the first opportunity for establishing a department of the industrial arts on a creditable basis, and of this the fullest advantage was taken, though only a part of the collections then obtained could be accommodated in the space available. The department or gallery of the fine arts had made little progress, though not from lack of desire or appreciation, until within the past seven years, during which its interests have been markedly advanced.

With the completion of the new large granite structure on the Mall, the Museum has come virtually into possession of a group of three buildings, in which there is opportunity for a proper systematic arrangement of its vast and varied collections as well as a comprehensive public installation, and under these favorable conditions it may be considered to have entered upon an era of renewed prosperity and usefulness.

While it is the primary duty of a museum to preserve the objects confided to its care, as it is that of a library to preserve its books and manuscripts, yet the importance of public collections rests not upon the mere basis of custodianship, nor upon the number of specimens assembled and their money value, but upon the use to which they are put. Judged by this standard, the National Museum may claim to have reached a high state of efficiency. From an educational point of view it is of great value to those persons who are so fortunate as to reside in Washington or who are able to visit the Nation's Capital.

In its well-designed cases, in which every detail of structure, appointment, and color is considered, a selection of representative objects is placed on view to the public, all being carefully labeled individually and in groups. The child as well as the adult has been provided for, and the kindergarten pupil and the high-school scholar can be seen here, supplementing their classroom games or studies. Under authority from Congress, the small colleges and higher grades of schools and academies throughout the land, especially in places where museums do not exist, are also being aided in their educational work by sets of duplicate specimens, selected and labeled to meet the needs of both teachers and pupils.

Nor has the elementary or even the higher education been by any means the sole gainer from the work of the Museum. To advance knowledge, to gradually extend the boundaries of learning, has been one of the great tasks to which the Museum, in consonance with the spirit of the Institution, has set itself from the first. Its staff, though chiefly engaged in the duties incident to the care, classification, and labeling of collections in order that they may be accessible to the public and to students, has yet in these operations made important discoveries in every department of the Museum's activities, which have in turn been communicated to other scholars through its numerous publications. But the collections have not been held for the study of the staff nor for the scientific advancement of those belonging to the establishment. Most freely have they been put at the disposal of investigators connected with other institutions, and, in fact, without the help of many such the record of scientific progress based upon the material in the Museum would have been greatly curtailed. When it is possible to so arrange, the investigator comes to Washington; otherwise such collections as he needs are sent to him, whether he resides in this country or abroad. In this manner practically every prominent specialist throughout the world interested in the subjects here well represented has had some use of the collections, and thereby the National Museum has come to be recognized as a conspicuous factor in the advancement of knowledge wherever civilization has a foothold.

Most important among the operations of the past year was the work upon the exhibition collections of natural history, in the arrangement of which sufficient progress was made to justify the opening of all the public halls in the new building, as described below. Much was also accomplished in the direction of rehabilitating certain branches of the department of the arts and industries, to which for a long time it has been impossible to give proper recognition, owing to the overcrowded condition of the Museum space preceding the occupation of the new building.

THE NATURAL HISTORY EXHIBITIONS.

Of the 468,000 square feet, or approximately $10\frac{1}{2}$ acres, of floor space furnished by the new building, some 220,000 square feet, or fully 5 acres, are of the nature of exhibition space. Included in the latter figures are the main floor and galleries of the south pavilion and rotunda, and the large central hall and several of its communicating rooms in the ground story, which, though occasionally and in part used for temporary exhibitions, have not as yet been permanently assigned to any purpose. The entire area of the wings and ranges in the first and second stories, however, has been definitely allotted to the display of natural history subjects and before the close of last year the installations had been sufficiently advanced to permit of its being wholly opened to the public. The total extent of this area is 185,294 square feet, of which 7,264 feet have for several years been provisionally occupied by the paintings of the National Gallery of Art in default of proper lighting in either of the other buildings.

As described in a previous report, the new building consists of three great wings extending east, west and north from a practically square pavilion and connected near their outer ends by two L-shaped ranges, one on each side, so placed as to complete the enclosure of two large courts and give to the building a rectangular and symmetrical outline in plan. The two exhibition floors are above a basement or ground story and are surmounted by a third story and attic, the latter not discernible from the outside. The wings are approximately 116 feet wide in the inside, and the ranges 54 feet 2 inches. The east and west wings are 216 feet long, but the north wing measures only 205 feet, while each of the ranges has a total length of 316 feet 10 inches. The heights are 20 feet in the first story and 19 feet 6 inches in the second story.

On account of their great width, it was necessary to introduce a large skylight over the middle of each wing in order to obtain illumination for the central part of the main floor, which required the piercing of the second as well as the succeeding stories, with a corresponding diminution in their areas. In the ranges, however, the floors are unbroken and alike in both stories. The main entrance is on the south side of the building, where the pavilion and rotunda serve as a great lobby communicating directly with all the wings. From this point, as also from the north side, which contains a secondary public entrance, circulation is continuous and unobstructed around the entire building, with a median thoroughfare through the north wing.

The skylighted section of each wing is of the nature of a great hall, 54 feet 8 inches high to the under side of the ceiling light, about 167 feet 6 inches long and 50 feet wide. Its boundaries in the first story are marked by a row of large rectangular piers on each side and a crossrow at the outer end, enclosing steel column supports for the inner edges of the floor above and for the walls of the light well, whose only piercings are certain balcony openings in the second story. The interspaces between the piers in the lateral rows, except the extreme one at each end, have been filled in with screen walls to further mark the line of demarcation and supply additional wall space for the purposes of installation. The side aisles furnish elongate halls, about 33 feet wide, reaching to the space at the outer end of the wing, which may be regarded as a fourth hall, measuring about 116 feet by 48 feet, except in the north wing, where its size is less and where a screen wall cuts it across. Only where the screen walls occur, however, is there any effect of actual division between the sections of the wing, whose great dimensions of length, width and height are in evidence from practically every point of view. In the second story of the wings the floor space is the equivalent of the aisles and outer hall of the main story, with approximately the same dimensions for each.

From the south pavilion there are three large openings into each of the wings on the first floor, one leading to the central hall, the others to the aisles. On the second floor there are only two such entrances, one on each side, though an intermediate balcony opening furnishes a general view overlooking the main hall. From the north entrance of the building immediate access is had to only the north wing, from which the others can be reached only by traversing that wing or the ranges at the sides.

The provisions for the lighting of the exhibition halls are ample, as, in addition to the skylights, the outer walls are pierced with exceptionally large windows, whose width is 11 feet 6 inches as against a width of 7 feet for the intervening piers, and whose height is only 4 feet to 5 feet 6 inches less than that of the stories. It is also of interest to note that the length dimension of the building is based on a constant unit of $18\frac{1}{2}$ feet, which is the distance between the centers of successive piers, and is only disregarded in meeting architectural requirements at the corners of the building and at the juncture of walls. This arrangement lends itself to uniformity in the installation of exhibits, which the size of the unit adopted permits to be carried out on a scale and in a manner commensurate with the large size of the halls.

The plan of three wings particularly adapts the building to the three departments representing the organization of the natural history collections, each of which is allotted an entire wing for its exhibi-

tion series, the overflow from each extending a greater or less distance into the adjacent ranges. The department of anthropology, which is centrally located with respect to the other two departments, occupies the north wing, the northern section of both ranges in the first story, and the entire east range in the second story, with an aggregate of 65,941 square feet of floor space, besides the 7,264 square feet used for the National Gallery of Art. The department of geology is assigned the east wing and the eastern section of the east range in the first story, with 47,691 square feet of floor space; while the department of biology has possession of the west wing, the western section of the west range in the first story, and the entire west range in the second story, with an aggregate of 64,398 square feet of space.

The magnitude of the task of installing the large area thus defined, of selecting, preparing, arranging, and labeling the great number and variety of specimens required, preceded by the planning and construction of the necessary cases, can be realized only by the few who have had experience in such matters. By expediting the work, by following along the lines of least resistance in order that the public might be denied access to the several parts of the building for as short a time as possible, the halls have been opened up in rapid succession, the last of them before the close of the past year. While to the casual visitor the installations may in the main seem altogether presentable, some of them are, in fact, still very incomplete, awaiting material which has been planned for and which to a greater or less extent is in course of preparation. In other cases the arrangements have been more or less provisional, demanding an extended revision in the matter of details which is steadily progressing, and the work of labeling remains largely to be done. It is to be understood, of course, that however thoroughly the above provisions may be carried out, the collections will be subject to changes and improvement during all time in order that the public may be kept in touch with the advancement of knowledge in natural history, and, through the introduction of better methods of illustration, may be led to a clearer understanding of the lessons which the exhibits are designed to convey.

On April 23, 1913, during the semicentennial celebration of the National Academy of Sciences, the arrangement of the mammal hall in the west wing having been effected, the south or main entrance of the building was first regularly opened to the public, which now has access to the great structure on both the north and south sides.

ANTHROPOLOGY.

Of the several divisions administered by the department of anthropology, four have been established in the new building as constituting together one of the great branches of natural history as now generally recognized by museums. They are physical anthropology, ethnology,

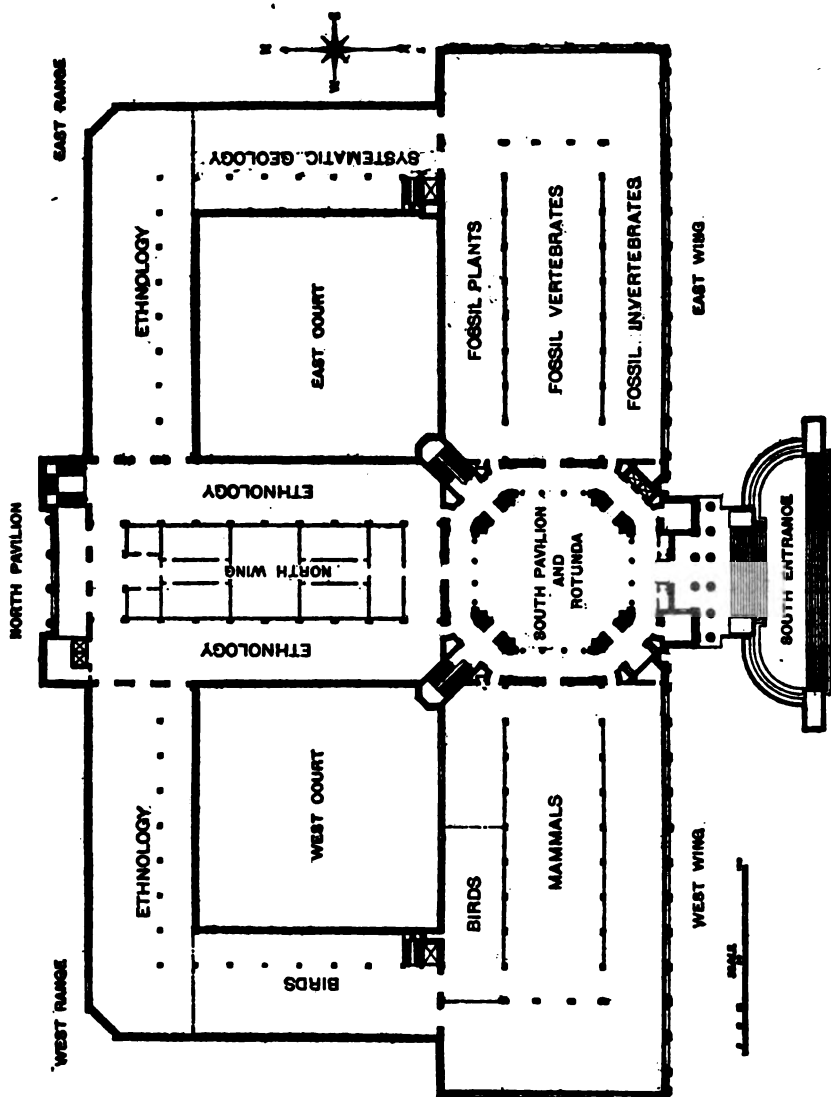
and archeology, which latter is here subdivided into Old World and American. Physical anthropology is not at present represented in the public halls, though an important exhibition of a technical character for the inspection of experts and students has been arranged in connection with the laboratory, as described farther on. Each of the other subjects, however, has been extensively illustrated on a popular basis of installation, though none the less instructive and important for the professional.

Ethnology.—This division occupies the entire area assigned to the department of anthropology in the first story, amounting in the aggregate to 35,474 square feet of floor space and comprising the following, namely: The full length of the northern sections of both ranges, each measuring 185 feet 6 inches long by 54 feet 2 inches wide; and all parts of the north wing outside of the enclosure for the paintings of the National Gallery of Art, including two side halls 187 feet long by 33 feet wide, besides a considerable amount of space at the ends of the wing.

The arrangement of the ethnological collections is geographical, the material belonging to each area being displayed as an assemblage or by classes of objects. The exhibits find their key in family lay-figure groups placed centrally in the halls, which typify the physical characteristics, the social organization, the manners and customs, and the arts and industries of selected human types. The design of the exhibition is to illustrate systematically the comparative differences in material culture and advancement of modern groups of mankind, thus giving an impression of the effects of environment and racial tendencies on the arts and industries of peoples. By means of the groups, and of individual figures, models of villages, paintings, transparencies, etc., the appearance of different peoples and the larger scope of their life is also shown. Wherever the collections are sufficiently large and full they are displayed in separate cases in accordance with a systematic arrangement, as costumes, textile art, household utensils, tools, weapons, transportation, artistic works, etc. A synopsis of an implement or product of an art belonging to a great area is also sometimes given, noting as examples the adz, the club, the spear and tapa cloth, which have a wide distribution. Another synoptical series showing the stages of development of implements and utensils has been prepared and awaits installation.

Of this exceedingly interesting and varied exhibition, which will before long be described in detail, only a brief summary can be given here. In the east range, beginning at the eastern end, are represented all the great regions of Africa, the Andaman and Nicobar Islands, Papua, Micronesia, Polynesia, the East Indies and the Philippines, the figures comprising costumed manikins of Africans, Veddahs, Papuans and Malays, and family groups of Negritos,

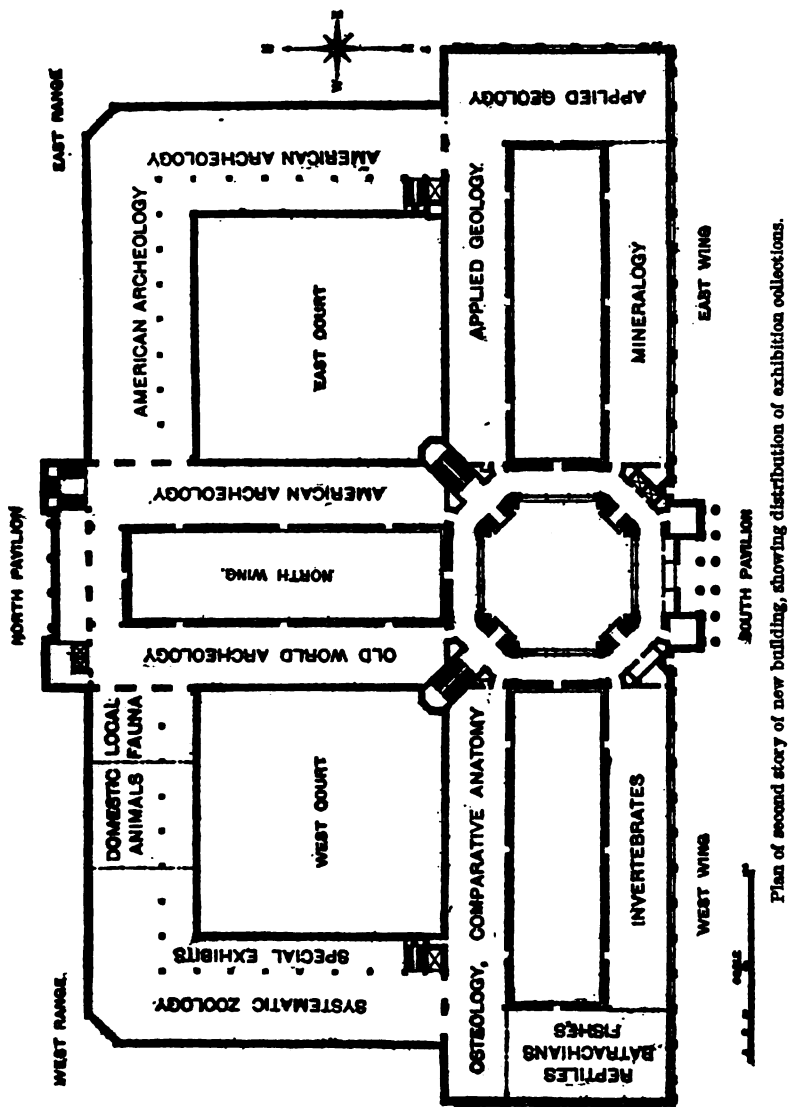
Igorots, Filipinos and Samoans. On the east side of the north wing, in continuation from the range, are the exhibits from India, Ceylon, Siam, Tibet, Mongolia, Turkestan, China, Japan, and the northwest coast of America, including a number of single figures and groups of Japanese, Ainos and Eskimo, and a series of paintings and enlarged



Plan of first story of new building, showing distribution of exhibition collections.

photographs placed above the cases on the wall. At the south end of the wing, adjoining the pavilion, are installed the totem posts and other carvings, paintings, baskets and textiles from the north Pacific region, besides Eskimo manikins, woodwork, armor, etc. The Eskimo exhibit is continued into the southern end of the western side

of the wing, and is followed by those of the Indians of northwestern Canada, the woodland States, the eastern and southern States, the northern and southern plains, and the Rocky Mountains, with figure groups of the Tlinkit of Alaska, the Tinne of Canada, the Kiowa, the



Navaho weaver and Navaho silversmith, the Zuni potter, the Cocopa and the Virginia Indians. The wall cases contain a number of single figures, while selections from the George Catlin collection of Indian paintings are arranged above the cases, and transparencies of both Eskimo and Indian subjects are displayed in the windows.

The west range is devoted to the Indians of California, Oregon and Washington, the Pueblo region, the southwest border States, Mexico, Central America, and South America, of which last area a majority of the grand ethnological divisions are represented. The family groups are of the Sioux, the Hupa of California, the Zuni, the Hopi, the Hopi snake dance, the Maya-Quiché, and the Patagonian. Two large models of typical Hopi-Pueblo villages occupy bases in the center of the hall, and interspersed among the exhibits here and elsewhere are numerous small cases of the Kensington type, containing groups of specimens of special interest, village group models, etc.

At the northern end of the north wing is an important exhibition of basketry. In four cases flanking the entrance to the art gallery are arranged many examples of these most interesting and pleasing objects of Indian skill and art, constituting a synopsis of the basketry work of the four regions of the world; while in the adjoining alcove, between the stairs and elevators, is a larger collection composed exclusively of American baskets, and containing type specimens for all of North America.

Old World archeology.—Embracing in its scope the antiquities of Europe, Asia, Africa and Australia, and the proximate islands, this division possesses but a very inadequate representation of the matters which pertain to it. The Government has conducted no explorations that would contribute to its resources, and the Museum itself has had few opportunities for directing material its way. Nevertheless, it has succeeded in assembling a varied and, in many respects, a most important collection, from which it has been possible to select for exhibition a very considerable series of specimens both interesting and instructive for the public. The space occupied is the elongate hall on the west side of the light well in the second story of the north wing, measuring about 187 feet 8 inches long by 31 feet wide, and the entire outer end of the wing, furnishing an aggregate of about 7,926 square feet of floor area.

The classification is in two great sections, the first embracing the culture of the so-called "historic nations," especially those settled around the Mediterranean basin (Assyro-Babylonian, Egyptian, Syro-Palestinian and Greco-Roman), from which our own civilization is largely derived; the second, the diversified cultures of various peoples, imperfectly or not at all represented in contemporary written records. To the latter belongs the large body of artifacts and osseous remains of man and of animals coeval with him in the very early stages of his development, generally referred to as the prehistoric or stone age.

The installations are as follows: The alcove at the northern end of the wing is mainly occupied by antiquities of Assyria and Egypt. In the center is a large mosaic taken from the floor of a Roman

temple at Carthage of two millenniums ago and representing a lion attacking a wild ass. On either side are facsimiles of the Rosetta Stone, and various Assyro-Babylonian and Palestinian monuments, while mounted on a screen is a large relief map of Palestine with two Palestine inscriptions, surrounded by a series of geographical and ethnographical photogravures. Three floor cases contain the more valuable Egyptian antiquities—a mummy, an original Greco-Egyptian painting, a facsimile of the Book of the Dead, inscribed papyri, potteries, stone implements, etc., while wall cases at either end of the alcove hold several well-preserved Egyptian mummy cases or coffins. The available wall space is used for reliefs in plaster illustrating phases of Egyptian and Assyrian history and mythology. In the passage adjoining the alcove are replicas of two colossal composite figures, the winged human-headed lion and bull, which once guarded the entrance to an Assyrian temple or palace, with a series of Egyptian and Assyro-Babylonian statues between them, the series being flanked at either end by casts of colossal statues from Syria-Hadad and Panamnu. The otherwise unoccupied wall space on both sides of the passage is covered with reliefs.

In the large western hall a continuous wall case on the east side contains in succession, beginning at the north, Egyptian antiquities, such as statues and busts of divinities and kings; a stone sphinx and various funerary paraphernalia; Assyro-Babylonian sculptures and utensils; Biblical coins and gems; a collection of Bibles and musical instruments of the Bible; Italian potteries; and reduced casts of upwards of 70 pieces of statuary and bas-reliefs illustrating Greco-Roman sculpture and mythology. Ranged on bases at the south end of the hall are casts of large sculpture (the Laocoon, Hermes of Andros, etc.), a model of the Parthenon, and a cast of a capital from the Temple of Castor in Rome. A selection of Hittite and Greek bas-reliefs is displayed on the wall space above the long case.

The floor space in this hall is occupied by two rows of cases, one extending through the middle, the other being on the window side. Interspaced between the 9 principal cases of the central row are small upright cases containing small collections of Italian bronzes, glassware, terra-cotta, mosaics and tiles, and potteries and tiles from Turkestan. In the main series are installed successively the finer and older figured Greek potteries, ranging in date from the 7th to the 4th century B. C.; Greek potteries and Etruscan bronzes; terra-cotta figurines and bronzes; bronzes found in various parts of Europe but mostly of Roman origin; a collection of stone and bone implements, bronzes and potteries from Troy, and a similar collection from Armenia; extensive series of Egyptian neolithic stone implements, and a few stone implements and other objects from Palestine, attributed to the paleolithic age; a large series of stone implements and

potteries from Japan, with a few examples from Korea and Russia; and stone and bone work and ornaments from India, Cambodia, and Indo-China.

In the outer row of cases are shown late Italian pottery; stone implements, potteries, and ornaments from the Lacustrine and Terremare periods in Italy; stone implements from the earliest times down to the neolithic period, accompanied by osseous remains and bone implements; paleoliths from the river drift and from caves and barrows in England and Ireland, with numerous remains of contemporary animals; paleoliths from France in which the several divisions and classifications of the paleolithic epoch, such as the Chelléen, Mousterien, and the wonderful art of the caverns of Dordogne in the Aurignacian period are well represented and supplemented by animal bones and bone artifacts; a large number of chipped and polished stone tools, with the appurtenant bones and pottery fragments, illustrating advanced stages of the neolithic in England and France; objects of stone, pottery, ornaments, agricultural products and the model of a pile house settlement from Switzerland; a collection of stone implements from Scandinavia; and illustrations of the primitive stages of culture in Somaliland, Cape Colony, Tasmania, Victoria, and New South Wales.

American archeology.—This division comprehends all that relates to American archeology, historic and prehistoric, continental and insular, and as regards northern America its collections are among the most important in existence. All branches of the collections have been drawn upon for the exhibition series, but the representation of the aborigines of the United States greatly preponderates. The space occupied for this display, aggregating in extent 22,540 square feet, comprises the east hall in the second story of the north wing, about 187 feet 8 inches long by 31 feet wide, and the entire east range in the same story, with a length of 316 feet 10 inches and a width of 54 feet 2 inches.

While the natural geographical classification is primarily by continents and island groups, and secondarily by ethnic areas or peoples, for purposes of exhibition, where the public must be considered, the secondary classification has been arranged by political divisions—by countries and states. Classification by peoples, that is, by races, stocks and tribes, is feasible in some cases, as, for example, the antiquities of the Eskimo can be separated in a general way from those of the Indian tribes, and those of the Aztecs from those of the Maya or Incas, but in all cases the distinctions grow less definite as we go backward in time and are finally lost. These ethnic groups are, however, the essential units of research, since a principal purpose in all archeological investigation is to acquire fuller knowledge of the history of particular peoples, but the science of archeology finds its greatest usefulness in contributing to the history of culture in its

primitive states of development, and the exhibits in the Museum are classified and arranged with the view of conveying all that can be brought out by objective material respecting this subject.

The hall on the east side of the north wing is devoted to the countries south of the United States. Beginning at the north are casts and originals of ancient Mexican sculptures, utensils, implements, and other objects of stone and clay, followed by corresponding exhibits from Guatemala, Honduras, Salvador, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Ecuador, Peru, Bolivia, Chile, Argentina, Uruguay, Paraguay, Brazil, and the Guianas. Several models of ancient Mexican buildings occupy a part of the central floor space, while casts of relief sculptures and glyphic inscriptions from Mexico and Central America are displayed on the walls. A number of overflow exhibits of minor antiquities belonging to Middle and South America have been provisionally installed in the east range.

Very special interest attaches to the above exhibits as they represent the highest achievements in various branches of culture attained by any of the American aborigines. The buildings, especially of the Maya race, shown in the models are works of astonishing elaboration of plan, mechanical perfection of construction, and beauty of embellishment, and the reliefs and glyphic inscriptions confirm the view that these peoples were advanced to the very threshold of civilization—a stage of progress corresponding with that of the most advanced nations of the Old World only a few millenniums ago. It is seen that the Aztecs of middle Mexico, the Zapotecs of southern Mexico, and the Incas of South America, while in some respects inferior in advancement to the Mayas of Yucatan and Guatemala, were also pressing hard up against the lower frontiers of the civilized state. The ancient peoples of northern Mexico, of the Isthmian region, and of northern South America were less advanced, while the great body of tribes of eastern and southern South America, ancient as well as modern, had not risen above the state of primitive savagery.

The east range, with the exception of a small space allotted to the British possessions, is wholly given up to the archeology of the United States. Forty-five large upright cases, distributed in three series through the entire length of the range, contain representative exhibits for the several States, beginning with Arizona and New Mexico and ending with New England. On account of the very large body of material from New Mexico, Arizona, and California, a number of cases are devoted to each of these States, while in some instances single cases accommodate the entire representation from two or more States, as Vermont, New Hampshire, Idaho, Montana, Mississippi, and Texas. Accompanying the above, in table cases, are illustrations of special features of exploration and the resultant collections, such as the contents of certain village sites, mounds, cemeteries, pueblos,

caverns, and cliff-dwellings, telling the story of the life and culture of the local tribes. Of particular popular interest are models of ancient pueblos, cliff-houses and villages, and also, though yet in an incomplete state, lay figures, colored to life, showing the practice of various industries, especially those concerned in the arts of stone working and metallurgy of the ancient peoples. Another series of table cases extending through the middle of the range, with a few at the sides, hold synoptic collections of relics illustrating each class of utensils and implements, as mortars, pestles, stone axes, copper implements, etc., conveying to the visitor a clear conception of the full range of form, the geographical distribution, and the material employed, and, with the aid of labels, the varied uses of the objects. Associated with these are numerous exhibits elucidating the industries of the aborigines, especially the quarrying of flint, obsidian, soapstone, and mica; the mining of copper, iron ore, turquoise, and paint; and the working of stone, metal, clay, bone, and shell, these being the most important features of aboriginal industrial life—the dynamic agencies of incipient civilization.

Physical anthropology.—Physical anthropology deals, in a comparative way, with the physical man, or man considered from the natural history standpoint, and endeavors to trace the processes and laws of his evolution and variation. In conjunction with other sciences it seeks a solid foundation for safeguarding the present welfare of the race and regulating its future development, and it also constitutes in part the physical basis for the science of psychology. The materials which have been assembled by the division represent normal man in his many differentiations, and embody extensive skeletal, brain, and other series to serve as a basis for research and comparison. As a result mainly of recent activities, the collections have been so built up as to comprise the largest and most comprehensive body of subject matter of physical anthropology in America. The arrangements in the laboratory are such as to facilitate the examination of material and the study of methods by specialists and students, and in two of the rooms a systematic exhibition series has been installed. Some of the more important subjects illustrated in the latter are the evolution of the human skeleton, the skull of primates compared with that of man, geologically ancient man and his forerunners, neolithic crania, the anatomical connection of present with early man and preceding forms, the development of the human skeleton, variations in the human skeleton, and senility and miscellaneous features. These exhibits are supplemented by numerous busts of pure-blood types of American Indians, portraits of prominent anthropologists, and a large series of modern and early anthropometric instruments.

BIOLOGY.

The exhibition collections of biology, at present restricted to zoology, comprehend a greater number of subdivisions than those of anthropology or geology. The principal of these are a general and comprehensive representation of the various groups of animals, in each of which groups the specimens are arranged faunally; a systematic series; a series illustrating comparative anatomy and the osteology of vertebrates; a series of domesticated animals; and a faunal series for the District of Columbia. Of a supplementary nature are a number of special exhibits illustrating interesting phases in zoology and noteworthy features of the collection.

The collections of the first subdivision occupy nearly two-thirds of the entire area allotted to the department, including the west wing and western section of the west range in the first story, and somewhat more than one-half of the same wing in the second story, with an aggregate of about 41,058 square feet of floor space. The other subjects are all provided for in the second story, where some 6,633 square feet are assigned to comparative anatomy and osteology; 8,459 square feet, to the systematic collection; 2,640 square feet, to the domestic animals; 1,724 square feet, to the faunal collection of the District of Columbia; and 3,884 square feet, to the special exhibits.

General series.—This series has been planned and arranged to illustrate for each group of animals or, in the case of the lower animals, for assemblages of groups, the geographical distribution of forms or types, which, under the restrictions as to space, can in the main only be carried out to the extent of showing the more important or more characteristic forms of each region. With regard to North America, however, the resources of the Museum permit and the general interests demand a more complete and detailed representation. Six primary regions have been recognized for the land animals, namely, the nearctic, or North America; the neotropical, or Central and South America; the palearctic, or northern and central Asia, all of Europe, and Africa north of the Desert of Sahara; the Ethiopian, or Africa south of the Sahara; the oriental, or India and the Malay Archipelago; and the Australasian, including Australia, New Guinea, and New Zealand.

The great majority of the specimens exhibited are mounted singly, but in the case of some of the more important and remarkable forms groups have been prepared, accompanied by accessories, to illustrate features of the habits and environment of the species. In all the preparations and especially those of recent years, it has been the endeavor to produce only work of the highest standard, combining scientific accuracy in reproducing form and pose with artistic skill in the manner of presentation. As a result, the collection contains

many examples of the taxidermist's art not surpassed elsewhere, and some which are probably unequalled. There remains to be replaced or made over, however, a certain amount of old material which has been retained on display in order that the several series may not present too many gaps.

Mammals.—The mammals occupy the entire first story of the west wing except a small section in the north aisle, or a floor space of 22,112 square feet. The great skylighted area contains the North American fauna, and also a limited number of forms from Central and South America. Most conspicuous among the features of this hall are 8 large groups representing the American bison, moose, musk ox, pronghorn, barren-ground caribou, woodland caribou, Rocky Mountain sheep, and Rocky Mountain goat. In cases against the walls, mounted singly, are different species of bears, seals, and ungulates. In the eastern part of the hall, that nearest the rotunda, are shown many of the smaller carnivores, such as wolves, foxes, cats, and skunks; small mustelids, such as the weasels and minks; an exceptionally fine specimen of the Alaskan sea otter; a family of badgers at their burrow; a number of the remarkable Texan armadillo among characteristic desert vegetation; a large walrus from Bering Sea; and sea lions and fur seals from California and Alaska. In the western part of the hall are the rodents, or rabbits, squirrels, mice, etc.; the insectivores, such as the shrews and moles; the bats; a group of prairie dogs near their burrow in company with a burrowing owl; and a group of opossums at the root of a tree, under which their rude nest is shown. Two wall and two small table cases at the extreme end of this area contain the mammals of Central and South America, a very incomplete series.

The palearctic fauna, which has been assigned the eastern part of the north aisle to a distance of about 74 feet from the pavilion wall, begins with a group of Spitzbergen polar bears, followed successively by a fine specimen of the Mongolian tiger; many representatives of the ungulates, such as the roebuck, the true elk or European moose, the European bison, the chamois of the Alps, the rare and remarkable Chinese antelope called the takin, and various wild sheep; and numerous examples of the smaller carnivores, insectivores, and rodents. Among the rodents is a series of various species of rats so mounted as to clearly present the differences between the several forms of these animals which have lately attracted so much attention as carriers of the germs of bubonic plague.

The oriental series occupies a position and area in the south aisle corresponding with those of the palearctic fauna in the north aisle. It is adjoined by the Australasian series, limited to a single bay of 18½ feet, and this in turn is followed by the Ethiopian or African series, which is continued into and fills the entire outer end of the wing,

with an aggregate of about 7,760 square feet of space. Most prominent in the oriental series are three groups of monkeys mounted in sections of tree tops of the forests of Borneo, the work of able taxidermists by whom they also were collected, which guarantees their truthfulness to nature. The largest group is of the orang-utan, one of the most manlike of the great apes. The others are of the long-armed gibbon, also usually referred to the anthropoid apes, and the proboscis monkey, remarkable for its protruding nose. Belonging likewise to this fauna are other oriental monkeys; several ungulates, such as the tapir, antelope, and deer; a selected series of Malayan squirrels; a number of carnivores, including a fine example of the Indian tiger; a model of the Ganges dolphin, a large dugong or sea cow, fruit bats, flying lemurs, the Indian pangolin, and characteristic oriental rodents, including the large Malayan flying squirrels. The region of Australasia is represented by numerous species of kangaroo, the wombats, the marsupial wolf, the two echidnas, the remarkable duckbill, and a specimen of the dingo or Australian dog.

The African mammals installed in the south aisle comprise wild hogs, monkeys, including the anthropoid gorilla and chimpanzee, lemurs, hyenas, jackals, and various large cats, the singular aardvark or African anteater, and examples of the African pangolin or manis and of insectivores. The most striking part of the African exhibition, however, is in the wide hall at the outer end of the wing, which contains 5 groups of large and characteristic forms, the latest productions of the taxidermist's art, illustrating to a marked degree how effectively the very presence of great animals in their natural habitat can be represented in permanent museum preparations. The first of these groups consists of a family of lions, a male, two females and two cubs, coming down to a water hole dug by zebras in a dry river bed. Large as is the case containing this exhibit, it is greatly exceeded by the other four, each of which measures 17 feet by 12 feet and requires for the sides the largest size of plate glass manufactured. Next to the lion group comes that of the kongoni or Cooke's hartebeest, comprising six individuals mounted in different attitudes in the midst of characteristic surroundings, the earth and plants for this purpose having been brought from the haunts of the species in Africa. Third in the series is a superb presentation of the white rhinoceros, male, female and calf, with accessories also from Africa, which is followed by groups of the water buffalo and Grevy's zebra, the latter including two oryx antelopes, which are often associated with the zebra in nature. The lion, buffalo, zebra and antelope groups were prepared by Mr. G. B. Turner, chief taxidermist of the Museum; and those of the hartebeests and rhinoceri by Mr. James L. Clark, of New York. The specimens used were selected from the

collection made in 1909 and 1910 by the Smithsonian African Expedition under the direction of Col. Theodore Roosevelt.

In wall cases partly surrounding the above exhibits is shown a great variety of selected types of African antelopes, besides representatives of other groups, including a young African elephant and a fine specimen of the nearly extinct Burchell's zebra. The following are displayed separately, namely, a group of horse-tail monkeys from Kilimanjaro, represented as playing among the foliage of a large tree; a very large giraffe, too tall to be inclosed in glass; and a well-preserved example of the recently discovered and very rare okapi, a near relative of the giraffe and an inhabitant of the impenetrable forests of the Belgian Congo.

Birds.—The exhibition of birds begins in the north aisle of the west wing on the main floor, of which it occupies a length of about 92 feet, and is continued thence into and throughout the western section of the west range a distance of 131 feet 4 inches, covering a total floor area of 9,652 square feet. The wing contains the pale-arctic, the oriental, and the African faunas. In the first mentioned are such familiar European forms as the stork, lammergeier, bustard, nightingale, true robin, true oriole, capercailzie, black grouse, true partridge, and quail. A pair of English song thrushes with their nest full of young constitutes a dainty piece of group-making, and conspicuous in the series is a beautiful display of the various Asiatic pheasants. Among the oriental birds are the grotesque Indian "adjutant," the wild peacock, the wild jungle fowl, from which our domestic breeds are supposed to have been derived, various horn-bills, which are among the most characteristic of oriental birds, and two showy groups, one of the rhinoceros bird, the other of the argus pheasant. In the African series, which is as remarkable as the oriental, are seen the diminutive love birds, the whydah finches with their long, flowing tail feathers, the weaver birds, gorgeous rollers, many parrots, the plantain eaters, the emerald cuckoos, the sunbirds, a goatsucker with two remarkable appendages, wild Guinea fowl, the crowned crane, the saddle-billed stork, and the sacred ibis. A bird rarely seen in museums, the large whale-headed stork, which inhabits solely the country of the Upper Nile, is represented by two exceptionally fine specimens.

Entering the west range, one comes first upon the Australasian series, which contains a great variety of splendidly colored birds. Especially notable is a fine display of birds of paradise and of parrots. Among other forms shown are the giant kingfisher, known as the "laughing-jackass," the brush turkey, which places its eggs in mounds of soil and decaying vegetation to be hatched without further attention from the parents, the wonderful "crowned" pigeons from New Guinea, the black swan, the cassowary, the emu, the kiwis of

New Zealand, and several species of penguins. The kea, or sheep-eating parrots of New Zealand, and the lyre birds of Australia are represented in two groups; and installed in a case by themselves are the smaller passerine birds of Australia, New Zealand, and Hawaii. Next follows the neotropical or Central and South American fauna, with a large assemblage of parrots, including the gorgeous macaws, and of toucans, with their huge vari-colored bills. Other typical forms are the quetzal, the national bird of Guatemala, with its graceful, resplendent tail; the curassow and ocellated turkey, among game birds; the humming birds, of which there is a rich assortment; the black-necked swan and other water and shore birds, the curious hoactzin, the condor, the rhea or South American ostrich, the tinamou, and the penguin.

The last of the avian faunas, the nearctic or North American, is allotted a much larger area than any of the others, aggregating 4,225 square feet, to permit of a fuller representation of the birds belonging to this country, and, therefore, of most direct interest to our own people, and especially to students and amateurs, the plan being to show as many of the species as possible, and to illustrate marked differences when such occur in the appearance of the male, female, and young of the same species. An enumeration of the species exhibited would be out of place here, but included among the rarer forms and more striking features are the great auk and Labrador duck, both of which are extinct; and the following mounted in groups, namely, the passenger pigeon, of which only a single living specimen, preserved in the Cincinnati Zoological Garden, is known; the Carolina parakeet which is nearing extinction, two hawks fighting over a ruffed grouse, the American flamingoes and their nests, Mexican jacanas among water lilies, the butcher birds and their "larder," the prairie chicken and sage hen, and the ruffed or dusky grouse.

Reptiles, batrachians and fishes.—These groups occupy jointly a space in the large hall at the outer end of the west wing in the second story, measuring about 85 feet long by 46 feet 6 inches wide. The fishes are installed in large wall cases on two sides of the hall and in a few table cases, while the reptiles and batrachians are at present wholly provided for in table cases. The most interesting part of the exhibition of reptiles and batrachians is in the form of casts made from fresh specimens and painted in excellent imitation of the natural colors. The species so represented are mainly North American, with a few exotic ones, such as are occasionally brought here alive and kept in captivity. Among tropical forms are the big pythons and boas, the common cobra and the king cobra, the latter two being considered the most deadly of all snakes. The exhibit of foreign species is being rounded out by means of alcoholic specimens, which are in course of preparation for the purpose. The

fishes are shown in the same way as the reptiles, the collection of casts representing a wide range of forms. Most of the casts are placed against wall surfaces in the backs of cases, but the flounders are displayed on a sandy bottom in table cases. A special feature consists of a series of enlarged models of deep-sea fishes of extraordinary appearance, such as the grotesque pelican fish with its enormous mouth, the viper fish with its protruding fangs, the angler with its light-emitting bulb, and the luminous fish, conspicuous in having numerous phosphorescent spots along the body. The only group so far introduced is one of the so-called walking fishes which are represented as skipping about by means of their pectoral fins on the mud flat of a mangrove swamp.

Invertebrates.—The faunal display of marine and other invertebrates has been assigned the south hall in the second story of the west wing, which measures 169 feet 7 inches long by 31 feet 6 inches wide. As the exhibit is being built up wholly anew and will contain a large number of specimens prepared in a manner not previously attempted, the work upon the collection has, of necessity, advanced much more slowly than in any of the other sections. It is still in a very incomplete state, but by the introduction of certain temporary installations the hall has been made sufficiently presentable to warrant its being kept open to visitors. As regards marine invertebrates, the scheme contemplates the illustration of a number of distinct littoral faunal regions, and of the deep sea, by characteristic forms belonging to the various groups of animals which inhabit them, to be supplemented by group assemblages in which relationships and environment can be more definitely demonstrated. The littoral faunas with which most progress has been made are three in number, namely, from the Arctic Ocean to Cape Cod, from Cape Cod to Cape Hatteras, and the Floridian.

Vertebrate osteology and comparative anatomy.—The collections illustrating these subjects occupy the entire length of the north side of the west wing in the second story, an area 216 feet long by 31 feet 2 inches wide. The osteological series is, in its purpose, most nearly akin to, and may, in fact, be regarded as a part of, the systematic collection in the adjoining range. It represents only selected examples of supergeneric types with no attempt at showing specific differences, and, notwithstanding the difficulty of exhibiting skeletons in a manner attractive to the public, it is felt that the installation has been made especially effective and instructive.

In the passageway between the wing and the range are the mounted skeletons of a horse and a man, labeled to bring out the homologies of the bones in these very dissimilar species. In the middle of the adjacent space is a series of skeletons of the primates, showing the differences and similarities in the bony structure of the various groups

from the most generalized types to the orang, chimpanzee, gorilla, and man. At the western end of the hall are skeletons of carnivores, pinnipeds and small whales, followed by those of other mammal groups, noteworthy among which are the Asiatic and African elephants, the giraffe and the American bison. Provision has been made for suspending the skeletons of whales of medium size from the ceiling, but for the skeletons of large species accommodations must be found elsewhere. After the mammals come the birds, reptiles, batrachians and fishes, completing the systematic series. Notable among these are the skeletons of snakes, beautiful in their curvature and repetition of uniform detail, and the cartilaginous skeletons of certain fishes, which require to be displayed in a preserving fluid. Next, in a single case, is illustrated the comparative skeletal anatomy of the vertebrate classes by means of the articulated and disarticulated skeletons of a fish, a tailed amphibian, a frog, a lizard, a turtle, a bird, a monotreme and a mammal. At the eastern end of the hall are several cases of anatomical representations in the form of preparations from the animal body itself and of finely executed models. The collection ends with an illustration of the chemical constituents of animal bodies.

Systematic series.—Beginning at its juncture with the west wing, this series extends through the western section of the west range and some 90 feet into the northern section. It does not, however, occupy the entire width of the range, as the space between the line of piers and the court walls is used for special topics. The total floor area devoted to the subject is about 8,460 square feet.

This collection is designed to present a general review or synopsis of the animal kingdom, arranged in systematic sequence from the lower to the higher groups. The family is the lowest subdivision recognized, one species being used for each, except where great variety of form exists within the family, when some of the more divergent types are added. With the vertebrates, except some of the lowest forms, the representation is restricted to external form and characters, the internal parts being elucidated by the anatomical collection above described. With the invertebrates, however, the complete structure, so far as it is brought out in any part of the exhibition, is illustrated in this series. A wide diversity of method for the representation of forms has been called for. Preparations of the animals themselves have been utilized to the fullest extent possible and compose the great bulk of the collection. For the minute forms and for such larger ones as are still among the desiderata of the Museum, recourse has been had to models and drawings. For some of the largest vertebrates of which it is impracticable to display full-grown specimens, young individuals or pictures have been substituted. The whales have presented the greatest diffi-

culties and the few species so far included in the series are illustrated by means of casts and models.

Domestic animals.—A full demonstration of all the races of animals that have been produced by domestication would require a very much greater extent of floor space than could be spared for that subject, and such a display, moreover, is not within the purpose of the Museum exhibition. In an area of about 2,640 square feet adjoining the systematic series, however, an attempt is being made to illustrate some of the more remarkable results of man's interference with the natural evolution of animals, though even within the limitation fixed the series is still very incomplete. The collection includes a number of skeletons designed to show that the modifications following domestication are not solely confined to external characters, and specimens of the wild stock where such is known have been or will be introduced.

Among birds the domestic fowl is most prominently represented, many breeds, though not nearly all that are recognized by fanciers, being exhibited. Though prepared several years ago and requiring to be amplified, the collection as it is furnishes a good idea of the range of variation that has been produced, and includes many specimens that were awarded premiums at important shows. It is partly installed in a group arrangement with surroundings in imitation of a barnyard, and partly as individual specimens on shelves. The turkey and peafowl are also represented, as are many breeds of the common pigeon, the latter being centered about a dovecot. Of mammals comparatively few forms are at present shown, among these being the horse, dog, sheep, goat, two forms of Asiatic cattle, namely, the yak and the zebu or Indian ox, and three representatives of the camel family, the llama, the alpaca and the Arabian camel.

Fauna of the District of Columbia.—The local faunal exhibit, the last of the regular biological series, still only in process of formation, is allotted 1,724 square feet of floor space at the eastern end of the northern section of the west range, where it adjoins the north wing. It is planned to make this collection of particular interest to the local students of biology and an important aid to the teaching of zoology in the District schools. Every species of animal living in the District of Columbia is intended to be represented by at least a single specimen, and also such former habitants, as the game birds, which have been driven from the region through the agency of man. The groups in which more or less progress has already been made are the mammals, birds, reptiles and batrachians, fishes and mollusks.

Special exhibits.—For the special zoological features provision has been made in the space intervening between the row of large rectangular piers and the court walls in the second story of the west range. Measuring about $17\frac{1}{2}$ feet wide, this space is divided by the piers into

successive bays each about 18½ feet across, furnishing appropriate dimensions for these several exhibits. As little material had been prepared for them before the occupation of the building, they will remain in a formative stage for some time yet, though in several subjects the installations are sufficiently advanced to be opened to the public. These are as follows: The eggs and nests of birds, animal architecture, phases of evolution, mimicry, albinism, melanism, the cotton boll weevil, and the distribution of the Rocky Mountain grasshopper. Another special exhibition already fully installed consists of the beautiful collection of corals secured by the United States Exploring Expedition around the World from 1838 to 1842, under command of Lieut. (afterwards Rear Admiral) Charles Wilkes, U. S. Navy, comprising a large share of the type specimens described by James D. Dana in his classic work on the subject.

GEOLOGY.

The exhibition collections of the department of geology are classified and arranged under four general heads, namely, systematic geology, mineralogy, applied geology and paleontology.

Systematic geology.—Systematic or physical and chemical geology occupies the eastern section of the east range in the first story to a distance of 131 feet 4 inches from the adjoining wing, with a floor area of approximately 6,769 square feet. First in order come the rock or petrological exhibits, installed in 1 wall and 5 upright floor cases. They begin with a series of the more common elements found in either a free or combined state in the rocks forming any essential feature of the earth's crust; are followed by a series of the ordinary rock-forming minerals representing the combinations of these elements, and these, in turn, by a series illustrating all the common rock types in the form of hand specimens about 3½ by 4½ inches in lateral dimensions. Supplementing these introductory collections are several series showing the changes which rock masses have undergone through chemical and dynamic agencies, such as crushing, faulting, and the various phases of metamorphism. They are contained in 7 upright floor cases of double-unit size, and are classified as follows: Rock weathering, glacial phenomena, concretions, faults and other structural forms, calcareous and siliceous sinter, cave phenomena and other illustrations of cold water deposition, volcanoes and volcanic phenomena, deep-sea dredgings and minor geological phenomena.

Constituting an especially interesting feature of the hall are the meteorites, which, while properly classed as rocks, are kept apart as illustrating world-making materials. The collection fills 1 large and 2 small cases, and an especially large example is mounted on a separate base. It numbers 713 specimens, representing 321 falls, and ranks

third among museum collections in this country, being exceeded only by those in the Field Museum of Natural History and the American Museum of Natural History, while abroad it is surpassed only by the collections in the British Museum and the museum of natural history at Vienna. Also installed in this hall is the Shepard collection of meteorites, comprising 464 specimens, representing 237 falls, which has been on deposit in the Museum for some years.

Writing upon the subject, Dr. George P. Merrill has remarked that the interest in this collection is partly geological and partly astronomical. It is now generally understood that whatever theory one may accept regarding world formation, for the materials of which the world is formed one must look to outside sources—that is, to space. While astronomy and the spectroscope have shown a close similarity, if not identity, in kinds of materials throughout the universe, the meteorites after all give the only really tangible clue to the stony nature of celestial bodies. Their study with particular reference to their efficiency as world-making material is, therefore, peculiarly instructive, and it is greatly to be deplored that their rarity and the fascination attached to them by reason of their source has caused them to be sought by those who are mere collectors, and has so forced their prices as almost to prohibit their use in scientific research.

Mineralogy.—The collections of mineralogy and applied geology occupy jointly the entire second story of the east wing. Mineralogy, however, is confined to the hall on the south side of the light well, measuring 169 feet 7 inches long by 31 feet 6 inches wide and furnishing 5,342 square feet of floor space. The installation comprehends three series of exhibits. The first is a systematic one, in which an attempt is made to show all the known mineral species, which are arranged according to the classification of E. S. Dana, in his "System of Mineralogy," in 14 American cases along the north side of the hall. The second consists of specimens of the same nature, less systematically arranged, but notable for their beauty and exceptional size, which latter prevents their incorporation in the systematic series. It is mainly displayed in 9 upright floor cases on the south side of the hall, and conspicuous among its features are illustrations of the occurrence in nature of silica and carbonate of lime. A group of Brazilian amethysts, a large beryl from Ackworth, N. H., and a copper boulder from Ontonagon, Mich., are mounted on bases, and contained in a small case is an exhibit of such nongaseous elements as occur uncombined in nature.

The third series in the mineral hall consists of the gems and precious stones composing what is known as the Isaac Lea Collection, which ranks second among the public collections of its kind in this country. It had its beginning in an exhibit of precious stones made by the National Museum at the Cincinnati and New Orleans expositions in

1884-85, was added to by the purchase of the Leidy collection of gems in 1894, and was later very materially increased through the acquisition, by bequest, of the important collection of Dr. Isaac Lea, of Philadelphia. Since then its growth has been fairly rapid and systematic, owing largely to the generous cooperation of the late Rev. Dr. L. T. Chamberlain, son-in-law of Dr. Lea and an honorary associate of the Museum. The collection is installed in a series of flat-top cases, of new and exceptionally pleasing pattern, which extends through the center of the hall. It bears the same relation to the systematic collection of minerals as does the collection of building and ornamental stones to that of systematic geology, and has naturally proved to be one of the most popular of all the exhibits. An effort has been made to represent all the more common gems and precious stones with special reference to those occurring in North America. The specimens are largely in cut and polished form, ready for use. In extending the exhibit it is planned, so far as possible, to show the unworked material side by side with the cut, in order that the public may become acquainted with the appearance of the different varieties in their natural state. It is also intended to give special attention to the possible utilization for ornamental purposes of certain stones which are in themselves of little commercial value, and this has already been done to good advantage in a series of cabochons cut from fossil wood. Among the more unique and striking specimens in the collection are a large, rich green, brilliant cut tourmaline weighing $57\frac{1}{2}$ carats, from Paris, Me.; sapphires and rubies from the now abandoned Jenks corundum mine in North Carolina; a 15-carat cut emerald from Portland, Conn.; and a series of cut hiddenites from Alexander County, N. C.

As introductory to and grading into the province of economic geology, there is installed at the outer end of the hall a selected series of the rocks and minerals from the diamond mines of South Africa, the gift of Mr. Gardner F. Williams, and another of gold nuggets and crystals, each displayed in a single case. The large copper boulder above referred to is also placed here.

Applied geology.—The space devoted to economic or applied geology is the north hall and outer end of the east wing in the second story, amounting to 10,585 square feet. The classification is here also in three series, first, the metallic ores, such as those of gold, silver, copper, etc.; second, the nonmetallic minerals; and, third, the building and ornamental stones. The metallic and nonmetallic exhibits are contained in 5 double and 10 single-unit upright floor cases and 15 American cases. They are planned to show, as far as possible, typical material with reference to both geological and geographical distribution, and, as at present installed, they are believed to be second to none in the country in completeness and systematic arrangement.

The collection of building and ornamental stones owes its conception to Dr. George W. Hawes, curator of geology in the Museum during the last year and a half of his life, who undertook, in connection with the work of the Tenth Census, a systematic study of the building stone resources of the United States, the results of which were published in one of the reports of that Census. Since then every effort has been made to keep the collection up to date, and it is believed now to fairly represent all of the kinds of building and ornamental stones obtainable in the country, and also the more important materials of the same nature which are imported from abroad. It comprises at present 2,548 specimens, mostly in the form of 4-inch cubes, which are installed in 18 floor upright cases specially designed for the purpose. In addition to these there are 13 rectangular bases or pedestals, with stone panels and tops, for the exhibition of certain materials of which it was desirable to have larger samples than could be incorporated in the regular systematic series. In connection with the building up of this collection as complete records as possible have been kept of the tests made upon the varieties of stone represented by the samples, and of the weathering and other qualities of building stones in general, making the collection of extreme usefulness in respect to all industries with which it may have relations.

Paleontology.—The paleontological collections have entire possession of the main story in the east wing, in which paleobotany occupies the north aisle, 151 feet long by 31 feet 8 inches wide, with 4,782 square feet of floor space; the fossil invertebrates, the southern side of the wing to a distance of about 198 feet from the pavilion and a width of 31 feet 11 inches, with 6,320 square feet of floor space; and the fossil vertebrates, the large skylighted area and most of the outer end of the wing, with 13,893 square feet of floor space.

The exhibition in paleobotany comprises a stratigraphical series of specimens illustrating all the important plant-bearing horizons, and a number of special features. The Carboniferous material, derived from the Lacoe bequest, is especially notable for the number, large size and splendid preservation of the specimens. The Mesozoic and Cenozoic plants are less well represented, but this condition will be remedied with the progress of the work of the Geological Survey in the western coal fields. The interest of the public in these natural wonders has led to the introduction of a case of petrified wood from the fossil forest of Arizona, the Yellowstone National Park and other localities, and many of the specimens have been polished to bring out their rich coloring. A number of large tree trunks and other exhibits have been arranged between the cases; the south wall has been partly utilized for enlarged drawings and specimens, and a large, very primitive Devonian tree, and an exceptionally large and fine example of a Carboniferous *Lepidodendron* have been mounted against the west wall.

The exhibition in invertebrate paleontology begins with a large mount showing a Cambrian sea beach, with numerous ripple marks and animal tracks crossing the sandstone. Large slabs illustrating the various types of near-shore sedimentation with their contained fossil remains, and colonies of Cretaceous, Devonian, and Mississippian crinoids, further represent the occurrence of ancient life; while the superposition of various rock formations is shown by means of a geological column of the strata found in New Hampshire. A case of specimens from the Middle Cambrian deposits near Field, British Columbia, serves to demonstrate both the significance of a fossil fauna and the perfection of preservation sometimes obtaining among fossil forms. Next are illustrated the general methods of fossilization and the usual conditions of preservation of fossils, followed by a number of cases devoted to the evolution of all the important groups of fossil invertebrates. The very rare medusæ, the crinoids and the insects are especially well represented in this series, though in no group is the material scanty. For the student of geology a stratigraphic series of the common and characteristic fossils of the various geological horizons of North America, accompanied by hand specimens of the characteristic rocks of each formation, occupies an adapted form of American case which extends uninterruptedly along the north wall. Mounted directly above this exhibit is a continuous geological section across the American continent on a scale of 2 miles to the inch, and measuring 90 feet long. Lack of space has prevented the introduction of collections illustrating geographical distribution in any detail, the only exception in this regard being the I. H. Harris collection from the widely-known Cincinnati region, which is displayed in 2 cases.

On account of their great variation in size, it has not been feasible to arrange the exhibits in vertebrate paleontology as systematically as in the two other sections of the division. In a general way, however, the western half of the large hall has been mainly allotted to the larger mammals, and the eastern part to the reptiles and birds. Occupying the center of the floor, immediately after entering from the rotunda, is the restored skeleton of an immense whale-like creature, popularly known as the zeuglodon (*Basilosaurus*), which inhabited the seas of the southern coastal plain of the United States in early Tertiary times. While numerous fragments of the bones of this animal have been found, the specimen on exhibition is the most perfect one known. To the right and left, respectively, of the zeuglodon, are quite complete skeletons of the American mastodon (*Mammot americanum*) from the peat bogs of Michigan, and the giant deer (*Alce gigantea*), commonly termed the Irish elk, from the Pleistocene clays of Ireland. Series of smaller specimens are arranged in cases and framed mountings along the walls, among them

being illustrations of the evolution of the horse and many forms of fishes. In the center of the eastern part of the skylighted hall is the large, unique, three-horned dinosaur (*Triceratops prorsus*), of which the skull alone measures 6 feet long. Mounted upright against the adjacent walls are two other exceptionally fine specimens of dinosaurs, besides an example of the duck-billed reptile, *Trachodon annectens*, over 26 feet long, and a skeleton of the carnivorous reptile, *Ceratosaurus nasicornis*, of almost equal size. Another exhibit of special interest consists of the skeleton of the large armoured dinosaur *Stegosaurus stenops*, accompanied by a full-sized model representing this reptile as it appeared in life. In the eastern part of the wing are exhibited the extinct birds, of which the toothed *Hesperornis* from the chalk deposits of Kansas and the giant moa are especially noteworthy.

OPERATIONS OF THE YEAR.

APPROPRIATIONS.

The appropriations for the maintenance and operations of the National Museum for the year covered by this report, namely, from July 1, 1912, to June 30, 1913, inclusive, contained in the sundry civil act approved August 24, 1912, were as follows:

Preservation of collections.....	\$300,000
Furniture and fixtures.....	50,000
Heating and lighting.....	50,000
Building repairs.....	10,000
Purchase of books.....	2,000
Postage.....	500
Printing and binding.....	34,000
Total.....	446,500

The sundry civil act approved June 23, 1913, makes the following provisions for the year ending June 30, 1914:

Preservation of collections.....	\$300,000
Furniture and fixtures.....	50,000
Heating and lighting.....	50,000
Building repairs.....	10,000
Purchase of books.....	2,000
Postage.....	500
Printing and binding.....	37,500
Total.....	450,000

BUILDINGS AND EQUIPMENT.

The most important repair work of the year consisted in further remedying certain defects in the roofs of the new building, to which attention was called in the last report. The remainder of the insecure copper cresting, amounting to about 736 running feet, was refastened in what is regarded as a thoroughly satisfactory manner, and some 1,524 lineal feet of the damaged copper gutters were replaced with the best quality of tin, which it is confidently expected will be lasting. The repairs to the older Museum building were mostly in the interior. The ceilings in this structure consist mainly of wooden lathing attached to the under side of the roofs and filled in with plaster which has gradually disintegrated and from time to time has fallen in such quantities as to menace the collections. A covering of thin sheet steel has proved the best and most economical

remedy for this condition, and during last year the ceilings over all or parts of four halls were so treated. Some of the walls were also pointed up and painted, and the renovation of the toilet rooms, begun the previous year, was completed. In the Smithsonian building the many large windows in the main or exhibition story, which have received but slight attention for many years, were found to be so dilapidated as to necessitate the entire renewal of 45 of the sashes and the extensive overhauling of the others. The roofs required some repairs, and the west basement of the building, formerly occupied by the alcoholic collections, was partly renovated, though its floors, which are badly rotted, have still to be replaced.

The power plant was operated satisfactorily and with comparatively few repairs. As in the previous year, it was closed down during two months of the summer, July and August, for overhauling, the work being done by Museum employees and such electric current as was required being purchased from the local power company at greatly reduced rates. The consumption of coal amounted to 2,660 tons, and steam was generated for heating purposes from October 1, 1912, to May 17, 1913. Improvements made in the distributing pipes to the older buildings are expected to result in a much more economical service. It is also interesting to note that in the production of ice by the plant introduced for that purpose three years ago a saving has already been effected which exceeds the original cost of the plant. Among new mechanical features added were a central air compressor plant for more economically furnishing power for certain minor purposes, and three thermostats for automatically regulating the temperature in the auditorium. The installation of devices for automatically opening and closing the doors on the north passenger elevators was begun, though not completed, before the close of the year.

Electric-lighting fixtures were added in places not heretofore permanently provided with them as follows: A circular Frink mirror reflector, carrying 56 40-watt tungsten lamps, above the eye of the ceiling dome of the rotunda; a series of 24 suspended fixtures in the second gallery of the south pavilion; and a system of low concealed lamps in the upper gallery of the pavilion, with reflectors arranged to throw the light upward against the walls and ceilings. Before the end of the year a contract had been concluded for furnishing 8 bronze electric-light standards to be placed at the corners of the pier balconies at the height of the first gallery for the general illumination of the rotunda; and the work of replacing the drinking-water faucets in the public halls with sanitary bubbling fountains had been commenced.

The furniture acquired during the year comprised 192 exhibition cases, 256 storage cases and pieces of laboratory furniture, 271 pieces

of office and miscellaneous furniture, 1,585 unit specimen drawers of wood, 500 insect drawers, and 1,061 miscellaneous specimen drawers. An inventory of all furniture at the close of the year shows that there were on hand at that time 3,414 exhibition cases, 6,616 storage cases and pieces of laboratory furniture, 3,270 pieces of office and miscellaneous furniture, 37,660 unit specimen drawers of wood, 4,712 unit specimen drawers of steel, 7,839 insect drawers, and 16,024 miscellaneous specimen drawers and boxes of various sizes.

COLLECTIONS.

The total number of accessions received during the year was 1,378, embracing as permanent acquisitions approximately 302,132 specimens and objects, apportioned among the several branches of the Museum as follows: Anthropology, 26,999; zoology, 113,509; botany, 140,015; geology, 5,569; paleontology, 14,716; textiles and vegetable products, 1,312; National Gallery of Art, 12 paintings. Of the specimens assigned to anthropology over 20,000 were postage stamps belonging in the division of history; and of zoological specimens over 97,000 were insects, mollusks, and other invertebrates. The loans received for exhibition comprised several hundred objects, principally historical and ethnological, but including 18 paintings and 2 pieces of sculpture for the National Gallery of Art.

DEPARTMENT OF ANTHROPOLOGY.

Ethnology.—The additions to the division of ethnology were comprised in 64 accessions, more than one-half of which were donations, and while none of these was extensive, several were especially valuable and the more important related to countries other than North America. A noteworthy collection made in the Philippine Islands by the late Maj. Gen. Frederick D. Grant, U. S. Army, consisting of swords, spears, bows and arrows, and other articles, several of which are of types new to the Museum, was presented by Mrs. Grant; and an interesting series of Filipino weapons and other objects, assembled by the late Maj. H. G. Lyon, U. S. Army, was contributed by Mrs. Lyon. A number of articles illustrating the culture of the Central Sakai, a primitive tribe of the Batang Padang District of Perak, Federated Malay States, including bark cloth, bamboo arrows, personal ornaments, etc., were received as a gift from the Federated Malay States Museums at Kuala Lumpur. A Japanese lady's court dress, a Chinese lady's dress, and a Norwegian peasant's bridal dress, together with the manikins for their display and the ornaments appropriate to be worn with the costumes, were donated by Miss Clementina Furniss, of New York; and a collection of India shawls and scarfs in needlework and print, Chinese and Japanese arms and

armor, lacquers, fans, etc., was presented by Miss Isabel C. Freeman and Mrs. B. H. Buckingham, of Washington. A sacred fire-drill of wood, used in the Idzumo shrine of the great Idzumo Temple of Japan, was received from Baron Senge of the Temple through Mr. N. Tsuda, directorial assistant of the Imperial Museum of Tokyo. A series of specimens from the Guayaki Indians of Paraguay was contributed by Mr. Frederick C. Mayntzhusen, of Yaguarazapa, Paraguay; and a number of interesting weapons from East Africa were received from Dr. W. L. Abbott, through Miss Gertrude Abbott, of Philadelphia. For four Aleutian baskets of a type which is becoming rare the division was indebted to Mrs. L. C. Fletcher, of Washington.

The most important collection purchased was one representing the industries, now rapidly disappearing, of the Chippewa Indians of Minnesota, which had been assembled by Miss Frances Denamore. It comprises examples of looms and textile materials for making belts and bags, of tools and materials for working in bark and rushes, with specimens of the finished work, and of tools and tanned skins used in leather work, besides rattles and other ceremonial paraphernalia, an old birch-bark record, and a series of articles illustrating the maple sugar industry. Among other purchases were costumes, basketry, pottery, agricultural implements, and games of the Mohave Indians of Arizona; two women's buckskin dresses, profusely ornamented, together with a number of tools and other articles from the tribes of northern California; and numerous objects, including rare examples of sacred bundles, obtained through the help of members of the Bureau of American Ethnology. Especially valuable was a large series of objects, consisting of costumes, pouches, necklaces and other personal ornaments, clubs, flutes, and baskets, collected by Mr. John Ogilvie among the Indians in the interior of Dutch Guiana, South America, where white men have rarely penetrated, and showing no trace of extraneous influence.

The more noteworthy loans for exhibition comprised basketry, beadwork, etc., principally of the North American Indians, from Mrs. L. C. Fletcher; old serapes of beautiful weave, woven bags, and Mexican ecclesiastical objects, crosses, reliquaries, amulets, paintings, etc., from Maj. Harry S. Bryan, of Mexico City; ancient oriental weapons, including sabers, scimiters, swords, yataghans, daggers, pistols, and guns, from Mr. George Kennan; and an interesting addition to the collection of Mrs. Julian James, consisting of numerous oriental and other weapons and fabrics, fans, brocades, satins, basketry, ornaments, photographs, musical instruments, and lacquer and tortoise-shell work, which had in part been assembled by Theodorus Bailey Myers, of New York, and Lieut. Commander T. B. M. Mason, U. S. Navy, and Mrs. Mason. Mrs. Julian James also presented a number of fine India shawls.

Excellent progress was made toward completing the installation of the exhibition series. Cases were constructed for and await the final preparation of lay figures for three new family groups and the remodeling of five old groups. Among special features added were a Filipino family group and two costumed figures representing a Chinese and a Japanese lady. The Haida house front was removed from the older Museum building, and its totem post installed at the southern end of the middle hall, the slabs being temporarily placed in storage; and models of the pueblo of Oraibi, the Zuffi Mission church and a Kiva at Jemez, N. Mex., were repaired. Constant attention was paid to the protection of specimens from insect pests, whose ravages have been practically held in check, and the entire collection of the division is reported in good condition.

The curator of the division, Dr. Walter Hough, completed for publication his report on the culture of the ancient Pueblos of the Upper Gila River in Arizona and New Mexico, based on the collection procured by him on the Museum-Gates expedition of 1905. He also began an investigation preliminary to the preparation of a descriptive catalogue of the pueblo collections in the Museum, and continued his studies on heating and illumination and other subjects.

Prehistoric archeology.—A large amount of material from the shell heaps of Maine, including all the ordinary implements and utensils of the shoreland tribes of New England, in stone, bone, and clay, collected in 1896 by Frank Hamilton Cushing for the Bureau of American Ethnology, was transferred to the Museum during last year. Two important collections were received on permanent deposit from the Carnegie Institution of Washington. The first, made by Mr. J. D. McGuire, comprises, among other relics, broken and split bones of animals and birds, stone and bone implements, worked antlers, and fragments of pottery, from a cave at Cavetown, Md.; breccia containing bones and flint flakes, hammerstones, arrowheads, and fragments of pottery from Hartman's Cave, Stroudsburg, Pa.; and hammerstones, chipped blades, arrowpoints, fragments of pottery, and human bones from a mound near Downsville, Va. The other, obtained by Mr. Gerard Fowke, consists of material from an aboriginal quarry site in Carter County, Ky.

Among the gifts received were a series of typical Carib stone axes and celts from Guadeloupe Island, West Indies, presented by Mr. Frederick T. F. Dumont, American consul at Madrid, Spain; a small earthenware vessel with incised decoration from a burial mound in Franklin Parish, La., two large and exceptionally handsome earthenware vessels from the Red River region of Arkansas, and a large pottery vessel of red ware with incised decoration from a burial site in Lafayette County, Ark., donated by Mr. Clarence B. Moore, of Philadelphia; several stone axes and a tufa ring from a compound near

Phoenix, Ariz., contributed by Dr. J. Walter Fewkes, of the Bureau of American Ethnology; and an ancient pueblo black-and-white-ware vase of large size from near Holbrook, Ariz., presented by Dr. Walter Hough. A number of stone and wooden implements from an ancient copper mine on an island off the coast of Chile were obtained in exchange; and a collection of Mexican antiquities, including several statuettes of stone, a palmate sculptured stone, and a large ornamental vase of earthenware, was acquired by purchase. Many prehistoric objects, mainly from the Valley of Mexico, were lent by Maj. Harry S. Bryan.

The work of the year was in continuation of the classification, arrangement and labeling of the collections of the division, which had been thoroughly overhauled following their transfer from the Smithsonian building, the improvement of the tentative exhibits already in place, and the addition of new installations as material was made ready and cases were supplied. While much still remains to be done in the exhibition halls, the display collections were in very satisfactory condition at the close of the year.

The head curator of the department, Mr. William H. Holmes, continued the preparation of the comprehensive handbook of American archeology, which has claimed his attention for several years past. Although based primarily on the resources of this division, the collections of various other museums are also being utilized.

Historic archeology.—The scope of this division has recently been enlarged to include the prehistoric as well as historic archeology of the Old World. The most noteworthy accession was a collection of Egyptian antiquities, ranging in date from predynastic times to the twenty-sixth dynasty and including, among other objects, a series of interesting potteries, a fine slate palette and other articles of stone, presented by the Egypt Exploration Fund through Mr. S. W. Woodward, of Washington, a contributor to the Fund. A large number of Greco-Roman and Egyptian antiquities, including a rare glass vase, probably of Roman origin, some well-preserved bronze vessels, Egyptian necklaces, and bronze and stone figurines of divinities and their symbols, was received as a loan from Dr. Thomas Nelson Page. A rare and peculiarly carved vase of agalmatolite from Mongolia was contributed by Dr. Aleš Hrdlička, of the Museum staff, and 19 worked stone flakes from Palestine were donated by Mr. Herbert E. Clark, of the Jaffa Gate, Jerusalem. Among other acquisitions were a collection of neolithic stone implements from Obourg, Belgium, and several stone implements from Deir el-Bahari, Egypt, received from Dr. W. Rehlen, of Nürnberg, Germany; several casts of prehistoric stone implements from Croatia found associated with the skeleton of the "Krapina man," received from Dr. Gorjanović-Kramberger, of the National Museum, Zagreb, Croatia,

Austria; and a number of stone implements from South Africa, presented by Mr. Albert Talken, through Mr. W. A. Haygood, American consul at Cape Province, South Africa. Thirty-one specimens, including casts of stone implements, animal bones, etc., from the caverns of Taubach, Germany, were obtained in exchange from the Städtisches Museum of Weimar, Germany.

The study and installation of the collections of stone implements and associated relics of other classes chiefly engaged the attention of Dr. I. M. Casanowicz, assistant curator of the division. An inventory of this extensive and important section of the division was commenced as a preliminary to the preparation of a card catalogue and of labels, and to a definite arrangement as soon as the necessary cases become available. In the Egyptian section of the exhibition series one special case, one Kensington case, and the Rosetta Stone were installed; and to the Biblical section were added a screen holding a relief map of Palestine, the Siloam and Temple inscriptions and 26 geographical and ethnographical photogravures of Palestine. A cast of the heroic Head of David by Michelangelo and a model of the Parthenon were also placed on exhibition.

Physical anthropology.—During an investigation in Asia, Dr. Aleš Hrdlička, curator of the division, secured 205 Mongolian and 14 Buriat skulls, with other bones, constituting a collection the counterpart of which does not exist elsewhere, and which, owing to rapidly changing conditions, it would be very difficult to duplicate. The more noteworthy gifts received were as follows: Seventeen skulls and a skeleton from mounds in Arkansas and Louisiana, from Mr. Clarence B. Moore; casts of the Mauer or Heidelberg jaw, from Prof. Dr. Otto Schoetensack, of Heidelberg University, Germany; a number of casts of skeletal remains of the ancient man from Krapina, from Prof. Dr. Gorjanovič-Kramberger, of Zagreb, Croatia; a large number of photographs of Sudanese Negroes, from Dr. C. G. Seligmann, of London, England; and the mummy of a Peruvian child showing *in situ* the band by which its head was being deformed, from Dr. Carlos Morales Macedo, of Lima, Peru. Eighteen Hindu and Polynesian skulls were received in exchange from the British Museum of Natural History; and casts of 10 skulls, with lower jaws, of Siberian natives from Prof. J. Talko-Hryniewicz, of Krakow, Galicia. Mention may also be made of an extensive collection obtained by the curator on an expedition to Peru, but which did not reach Washington in time to be overhauled and accessioned before the close of the year.

The curator was absent from Washington during a considerable part of the year, conducting field investigations in several distant countries. Work upon the collections was carried on, however, as opportunity permitted, and the segregation of material was continued

having in view the presentation, in the form of exhibits, of the following subjects: Human evolution and man's antiquity; the connection of present man anatomically, on a basis of certain important characters, with his early ancestors and even earlier forms; the normal variation in all parts of the skeleton of present man; aboriginal surgery and diseases peculiar to the American aborigines; and human and animal brains.

The principal studies by Dr. Hrdlička related to early man in the Old World and to the origin of the American race. A report on the former subject is in preparation, while a preliminary paper on the latter appeared during the year in the Smithsonian Miscellaneous Collections. Unfinished investigations mentioned in the last report were also continued.

Mechanical technology.—A valuable loan collection of military weapons and other articles received from Mrs. Julian James, of Washington, includes several brass models of field and fortification cannon; a number of typical Navy cutlasses, swords, and fencing foils; a double-barrel shotgun made by Joseph Lang, of London, and used by Lieut. Commander T. B. M. Mason, U. S. Navy; a pair of dueling pistols marked "F. Rynolds, N. Y."; an exceedingly rare Colt's single-action, .26 caliber revolver made at Paterson, N. J.; a set of copper powder measures made for the Ordnance Department of the United States Army; and a sextant made by E. & G. W. Blunt, of New York, and formerly belonging to Frederic B. N. Mason, U. S. Navy. By transfer from the War Department, the Museum obtained an interesting series of weapons and other objects, which had been exhibited in a museum of historical arms maintained for some years at the Soldiers' Home in Washington. Among the articles were a Harpers Ferry musket of 1810; Hall breech-loading rifles of 1837 and 1838; United States Springfield cavalry and artillery musket-oons, caliber .69, of 1851, 1852, 1853 and 1855; Colt's single-action .45 caliber Army revolvers; a noncommissioned officer's sword; cavalry and artillery drivers' saddles, and several cavalry sabers. Mr. J. W. Daniel, of Washington, deposited a pair of horse pistols, .54 caliber, made by W. L. Evans, Valley Forge, 1831; and an Army revolver, .36 caliber, made in imitation of the Colt revolvers, and marked "C. S. A.," the belt buckle belonging with it bearing the Virginia State seal.

The Museum is again indebted to Mr. Claude L. Woolley, of Baltimore, for examples of sundials, of which two were presented by him during last year. One is of bronze, horizontal, adapted to the latitude of Aberdeen, Scotland, $57^{\circ} 10'$ north, and is marked "My time is in Thy Hand"; the other is of aluminum, horizontal, calculated for the latitude of Constantinople, Turkey, $40^{\circ} 55'$ north, has the hours designated by Arabic characters, and bears the inscription

in Arabic, "Work while the King gives the light." A 5-cylinder revolving aeroplane engine, of 30 horsepower and weighing 97 pounds, devised by Mr. Emile Berliner, was donated by the Gyro Motor Company, of Washington.

As a temporary loan, the Museum received from the Isthmian Canal Commission a working model of the Pedro Miguel locks, and a papier-maché relief map of the Gatun dam, locks and spillway of the Panama Canal. They have been exhibited in the foyer in the ground story of the new building.

The floor of the northeast court in the older Museum building, from which the collections of graphic arts had been removed, was assigned to this division and is being used for the exhibition of fire-arms and other articles. Its acquisition for this purpose has permitted the withdrawal of certain exhibits belonging to the division from the west side of the building which is required for other branches of the arts and industries. The classified arrangement and labeling of the exhibition collections made good progress. The original apparatus and models relating to electricity and many of the mechanical arts are being segregated in the east hall, and the smaller aeronautical models and the automobiles in the southeast range, but owing to the limited space a clearly distinctive separation between the different classes can not now be carried out. An important work consisted in the overhauling of the extensive storage of the division, which was not, however, completed, and the rejection of some material found to be of no further value to the Museum.

Ceramics.—There were two principal additions to the section of ceramics. One of these, a loan from Mrs. Julian James, was a collection of some size, made by the late Theodorus Bailey Myers, a noted connoisseur of New York, and comprising large Delft, polychrome and blue plates of great beauty and value, a number of fine examples of Hispano-Moresque ware, objects of blue Staffordshire ware, Liverpool pitchers with patriotic scenes, Lowestoft, Wedgwood and modern porcelain, and some glass ware. Mrs. James also deposited four panels of old blue Delft tiles with scenes. The other, for which the Museum is indebted to Miss Helen E. Coolidge, of Washington, consisted of three Lowestoft plates of superb blue and two Chinese porcelain cups generously presented, and of a rare cup and saucer of Spode ware received as a loan. Reference may also be made here to the large collection of porcelain assembled by the late Rear Admiral F. W. Dickins, U. S. Navy, and deposited by Mrs. Dickins, which, because of its pictorial significance, has been installed with the historical collections and is described in connection with them.

Graphic arts.—Most noteworthy among the donations of the year were an exhibit illustrating the Ben Day rapid shading mediums, comprising a Ben Day machine, printing screens, ink roller and pad,

pressing tools, etc., and a set of zinc plates showing the method followed in making the colored supplement of a Sunday newspaper, contributed by Ben Day, Inc., of New York; and two sets of progressive proofs of colored lithographic printing, received from the Fuchs and Lang Manufacturing Company, of New York. An interesting series of engravings, etchings, mezzotints, maps, charts, and photographs was lent by Mrs. Julian James. The section of photography received for its exhibition collection an important series of astronomical photographs made at the Mount Wilson (California) Solar Observatory under the direction of Dr. George E. Hale, and presented by the Carnegie Institution of Washington.

As explained in the last report, the exhibition halls on the main floor of the Smithsonian building have been assigned to the division of graphic arts, exclusive of the section of photography which is retained in the older Museum building. The installation of the collections, begun in 1912, was actively continued during last year, but, owing to the fact that extensive improvements are about to be made to the main and larger hall, the final classificatory arrangement of the materials has for the most part been deferred, though not to the extent of preventing a generally satisfactory presentation of the several subjects so far as they have been worked up. In the west hall, where the installation has been most perfected, the exhibits are practically all technical, comprising the tools, materials, and finished work elucidating the processes of reproduction along many lines, as in wood and other methods of hand engraving, etching and lithography; photo-mechanical lithography, intaglio, and relief; collography, electrotyping, shading mediums, etc. The collection illustrative of photography, which occupies the gallery of the north-west court in the older Museum building, has been so nearly completed as to insure the opening of this important exhibition early in the current year, although many gaps still exist and some time will be required to finish the labeling.

Musical instruments.—The Museum has a large and diversified collection of the musical instruments of both aboriginal and civilized peoples, which is at present exhibited under such unfavorable conditions that its true value can not be appreciated. A better installation, however, is soon to be made, which it is hoped will lead to further contributions needed to fill in the many existing gaps. The collection has for a number of years been under the custodianship of Mr. E. H. Hawley, who has not only carefully attended to its preservation, but has made extensive studies regarding the properties, distribution, names, etc., of the musical instruments of the world, which has enabled him to so classify and label the Museum material as to give it a distinctive value. There were only two accessions during the year. One consisted of a piano made by Torp and Unger,

of New York, between 1838 and 1840, and presented by the Rev. Augustus Smith, through Mr. Robert A. Smith, of Washington. The other was a combined bass drum and cymbal pedal beater, the gift of Mr. George William Reiser, of Baltimore.

History.—While the exceptional record of 1912 failed to be equaled last year, the number and value of the accessions in the division of history, and especially of permanent ones, was well above the average. It is most gratifying to announce the acquisition in perpetuity by the Nation of the flag that flew over Fort McHenry during its successful defense against the British fleet on September 13 and 14, 1814, and immortalized as "The Star-Spangled Banner" by the inspired verses of Francis Scott Key. This relic of the gallant fight, which led to the brevetting as lieutenant colonel of the commanding officer, Maj. George Armistead, U. S. Army, was preserved by him and descended to his grandson, Mr. Eben Appleton, of New York City, who consented in 1907 to its exhibition by the National Museum. During the past year this loan was made a gift to the Museum, for which patriotic action the public owes to Mr. Appleton a lasting debt of gratitude. The flag derives an additional interest from the fact that it is one of the few in existence having 15 stars and 15 stripes. Being greatly frayed and torn, it requires the support of a canvas backing, but by careful attention its preservation should be insured for all time. It has occupied a conspicuous place in the main hall of history since it was first received, but is deserving of a more appropriate setting than it has at present, one in which the entire width of the bunting can be shown.

Another important loan that was changed to a gift during the year consists of a bronze cannon with its wooden carriage, brought to America by Lafayette and used by the allied forces during the War of the American Revolution, at the close of which it was presented by Lafayette to Col. John Cropper of the Continental Army. The Museum has received it from Mrs. John Cropper, of Washington. Also dating from the same period is a dress sword and scabbard which was presented to Col. Return Jonathan Meigs of the Continental Army by act of Congress of July 25, 1777, in recognition of distinguished service during an expedition in that year to Long Island; and likewise a pair of silver knee buckles worn by Maj. Gen. Richard Montgomery, of the Continental Army, at the time of the attack on Quebec, December 31, 1775, and presented shortly before his death to his friend Col. Meigs. Both of these relics were donated by Mr. Return Jonathan Meigs, of Washington, the fourth in line of this name. The Washburn family of New England is represented by an interesting collection of memorials, including an antique pew-chair owned during the colonial period by Leah Fobes Washburn; a tile from the ruins of Evesham Abbey, England, bearing the arms of the

Washburn family; a service sword and scabbard and uniform coat used by Maj. Gen. C. C. Washburn, U. S. Volunteers, during the Civil War; a small silver goblet, part of a silver service presented to him by the members of his staff; two china vases belonging to him while governor of Wisconsin, 1872-74, and a number of other relics, all of which were received as a gift from Mrs. Albert W. Kelsey, of Philadelphia, daughter of Gen. Washburn.

The extensive and valued collection of Grant memorials received many important additions. Representing Gen. U. S. Grant are two carving sets, each of seven pieces, with silver and ivory handles, one accompanied by two dozen dinner knives similarly mounted, presented to the General, respectively, by the people of San Francisco in 1871 and the workmen of the Lamson and Goodnow Manufacturing Company, of Shelburne Falls, Mass., in 1869, which were recorded as a gift from Maj. Gen. Frederick Dent Grant, U. S. Army, through Mrs. Frederick Dent Grant. From the latter were received, also as a gift, the following memorials of her husband: The uniform worn by him when a cadet at the West Point Military Academy; a uniform coat worn during the period from 1873 to 1880, when aid on the staff of Gen. Philip Sheridan; his full-dress uniform worn in 1911 and 1912 while in command of the Eastern Division with headquarters on Governors Island, N. Y.; two United States and three headquarters flags flown by him in the Philippine Islands from 1899 to 1902, in campaigns against Filipino insurgents; a Colt's revolver and several native daggers and swords captured from the insurgents; a pair of French dueling swords with scabbards presented to Gen. Grant in 1899 by the Spanish Secretary of Justice of Porto Rico, Dr. Herminio Diaz, by whom they had been owned and used; and a number of other articles, including an ivory-handled driving whip and a fur overcoat. Mrs. Grant also presented a silver knife, fork and spoon which had been used by her husband when a child, and a set of Russian enamel spoons given him in 1892 by Senator Leland Stanford.

A white kid glove of the type worn by those who entertained Lafayette in Boston in 1825, and a United States Army chapeau given to Brevet Maj. Gen. Edward Davis Townsend, U. S. Army, by Lieut. Gen. Winfield Scott, U. S. Army, were received as a gift from Mrs. E. M. Chapman, of Washington. A piece of masonry from the ancient wall of Servius Tullius in Rome, Italy, presented to the United States Government by the National Association for the History of Italian Unity, Rome, to replace a memorial stone of the same description sent by the National Committee as a tribute to President Lincoln, after his assassination in 1865, but lost in transit, was transferred to and will be preserved in the Museum. A diploma of doctor of medicine, conferred by the University of Edinburgh, Scotland, in 1768, upon Gustavus Richard Brown of the colony of

Maryland, a friend of Washington and one of the physicians who attended him in his last illness, was donated by Mrs. Mary J. Roach, of Washington, and other descendants of Dr. Brown. A card of admission to the Senate gallery at the Capitol during the impeachment trial of President Johnson in 1868 was contributed by Dr. Hugh M. Smith, of Washington.

The last report recorded the acquisition by the Museum of a number of gold and silver medals which had belonged to Matthew Fontaine Maury, Commander, U. S. Navy, donated to the United States by several of his descendants, in connection with many manuscripts and other articles deposited in the Library of Congress, as a memorial in his honor. It is desired to supplement the statement there made by a more specific reference to the fact that these valued tokens, the gifts of sovereigns and foreign governments, were presented to this distinguished Naval officer in recognition of the services he rendered to the commerce and navigation of the world through his wind and current charts, his physical geography of the sea, and his extended researches connected therewith, which constituted a contribution of incalculable importance to the welfare of mankind. It is also necessary to correct the dates assigned to two of the medals, as the Humboldt medal was presented in 1855 instead of 1865, and the Austrian great gold medal of science, in 1858 instead of 1868. Two additions were made to this collection during last year. One was a bronze medal of the Exhibition of the Works of Industry of All Nations, held in London in 1851; the other a gold electrotype of the gold medal awarded by Oscar I, King of Sweden and Norway, the original of which belongs to Miss Ann H. Maury, of Richmond. Both of these were received through Mrs. Mary Maury Werth, the replica, in fact, having, by courtesy of Miss Maury, been made for and presented by her.

The only pictures of historical interest permanently acquired during the year were the following, presented by Maj. William Boerum Wetmore, of Washington: An oil portrait of George Peabody, by Lowes Dickinson, 1869; an oil painting by N. H. Trotter, 1897, entitled "Held up," showing an early railroad train stopped by a large herd of buffalo which are crossing the track immediately in front of the engine; an engraving of the Charter Oak, and three water-color paintings executed in the early part of the nineteenth century, two being of the U. S. Frigate *Constitution*, and one of the U. S. Schooner *Shark*. The Museum was also indebted to Maj. Wetmore for a varied collection of relics of the Civil War. The plaster model by Frank E. Elwell, from which was cast the bronze statue of Rear Admiral Charles H. Davis, U. S. Navy, for the Vicksburg National Military Park, was deposited by the War Department; and an oil

portrait of Henry Clay, by Jean Baptiste Adolphe Gibert, was lent by Mr. Watterson Stealey, of Washington. An interesting collection of modern Chinese copper and brass coins, to the number of 135, was received as a gift from Prof. N. Gist Gee, of Soochow University, Soochow, China.

Having transferred to the custody of the National Museum its extensive collection illustrating the various phases of the postal service, in which most important and valuable is the remarkable series of postage stamps, as described in the last report, the Post Office Department has continued to transmit the new issues for all countries as they are assembled and distributed through the medium of the Postal Union. During last year there were 9 accessions, including 21,242 separate stamps, post cards and envelopes, and with this cooperation the Museum must soon attain a foremost position in the world as regards the subject of philately.

Of the loans to this division the most extensive was the remarkable collection of nearly 500 pieces of American historical china brought together by the late Rear Admiral F. W. Dickins, U. S. Navy, and deposited by Mrs. Dickins. Containing many Liverpool pitchers and pieces of Staffordshire ware, it is especially noteworthy on account of the large number of fine specimens of Presidential china, including examples dating from the administration of Washington to that of Benjamin Harrison. The series of pieces decorated with views, portraits, and inscriptions relating to important events and representing prominent personages in the history of the United States from the colonial period to the middle of the nineteenth century is particularly large and interesting. From Mrs. Henry Wells, of Washington, were received a dress sword and scabbard of the period of the American Revolution; a letter written by Thaddeus Kosciusko when colonel in the Continental Army, dated May 24, 1779, to Ashbel Wells, Assistant Deputy Quartermaster General of the American forces; eight other letters of the same period written or received by Ashbel Wells, and two additional documents. Four early American chairs, two once owned by Maj. Gen. Philip Schuyler of the Continental Army and two by Alexander Hamilton, and two mahogany side tables which had belonged to the latter were obtained as a loan, the chairs from Dr. Allan McLane Hamilton, of New York, grandson of Alexander Hamilton, the tables from Mrs. Hamilton. A number of additions to the loan collection of the Bradford family of New England, deposited the previous year, were made by the Misses Long, of Washington, including six silver conserve spoons, a cut-glass vase, five pieces of antique jewelry, a purse of silver and ivory, a vinaigrette, and three lace veils.

Rear Admiral Robert E. Peary, U. S. Navy (retired), added to his loan collection the following further testimonials awarded him in

recognition of his achievement in reaching the North Pole, namely, a special gold medal of honor, set with a single large diamond, from the Peary Arctic Club; a gold medal from the Paris Academy of Sports; and a gold, silver and bronze trophy from the Canadian Camp of New York City. The memorial gold medal, mounted on a bronze tablet, issued by the Carnegie Hero Fund Commission in memory of the heroines and heroes of the steamship *Titanic* lost off the Banks of Newfoundland, April 15, 1912, was presented by the Commission.

To the loan collection of the National Society of the Daughters of the American Revolution was added an antique German wooden casket, decorated with a painted design and inscriptions in German and Latin, and bearing the date 1660, which had originally been used by members of the Keim family as a receptacle for jewelry, laces, and toilet articles.

The division of history requires a relatively greater proportion of exhibition space than most other branches of the Museum as its collections are more generally of a character to interest the public. It has, however, many resources which are not intended to be displayed but are kept conveniently accessible for reference and study, among these being an important series of portraits, already numbering several thousands. To permit of the introduction of certain new subjects and the enlargement of the exhibits in others, for which material is available, a third hall, the north-west range in the older Museum building, was assigned to the division during the year.

An important work begun was the classification of the extensive collection of postage stamps, stamped envelopes, and postal cards, as a preliminary to the selection of a series for exhibition, and the systematic arrangement and filing of the others. Good progress was also made toward arranging the collection of medals, heretofore in storage, which includes a fairly representative series of the historical medals of the United States, England, and France, besides a number of examples from other countries. Some attention was likewise paid to the collection of coins which, while comprising a large number of pieces, is unfortunately very deficient even as regards the coinage of the United States.

Period costumes.—The preparation of an exhibition of historical costumes, to which reference was made in the last report, was actively continued during the year though no part of the collection was made ready for installation, owing mainly to delays in securing appropriate lay figures. Following numerous experiments, plaster was finally selected as best suited for representing such parts of the figures as will be exposed, and six manikins of this pattern were approaching completion at the close of the year. The collection is affiliated with the division of history and is being restricted to cos-

tumes that have been worn at state and other important functions, principally by the ladies of the White House. The subject, which is one that has received much attention abroad, was taken up for the Museum on the initiative of Mrs. Julian James, who is giving largely of her time to the planning and direction of the work, and to the gathering of the requisite materials. She is being ably assisted by Mrs. R. R. Hoes, and has received material aid from Mrs. Hunt Slater, Mrs. Christian D. Hemmick, Miss Katharine Mimmack, Miss Clementina Furniss, Mrs. Henry White, Mrs. E. F. Andrews, Mrs. Dickinson Jewett, Miss Amaryllis Gillett, Mrs. C. Albert Hill, and Mrs. P. M. Rixey.

Important permanent contributions to the collection were made by Miss Clementina Furniss, of New York, and Mrs. S. E. Cummings and Miss L. L. Lander, of Washington, Mrs. Cummings' donation consisting of 159 articles, including costumes, laces, jewelry, fans, purses, and other accessories worn by ladies and gentlemen prior to 1825. The loans, which were numerous and valuable, were received from Mr. Edward Rutledge Pinckney and Capt. Thomas Pinckney, of Charleston, S. C.; Mrs. William M. Ellis, of Shawsville, Va.; Mrs. Mary B. Barber, of Canton, Ohio; the Misses Forsyth, of Kingston, N. Y.; Mrs. George W. Fall, of Nashville, Tenn.; Miss May S. Kennedy, of Charlestown, W. Va.; Mrs. C. C. Cooley, of Baltimore, Md.; and Mrs. John Southgate Tucker, Mrs. J. Hough Cottman, Mrs. P. M. Rixey, and Mrs. Julian James, of Washington.

Work of the preparators.—The principal work carried on was in continuation of the preparation of exhibits for the public halls, and especially the modeling, casting, painting, and installation of lay figures for the ethnological and historical costume collections, in connection with which the services of Mr. H. W. Hendley were mainly utilized. Numerous figures, modeled in clay and cast in plaster, were also made by Mr. U. S. J. Dunbar, sculptor, partly for the Museum, but chiefly for the Panama-California Exposition, and Mr. Frank Mička, sculptor, was likewise employed to prepare anthropological exhibits for the same exposition.

Exhibition collections.—With the opening up in April, 1913, of the large hall devoted to prehistoric archeology, the entire exhibition space allotted to the department of anthropology in the new building became accessible to the public. While the installations are generally well classified and displayed, they are to a large extent still tentative, and subject to additions and improvement. Much also remains to be done to complete the labeling.

Explorations.—Two trips were made during the year by the head curator of the department, Mr. William H. Holmes, for the purpose of exploring archeological localities and of obtaining data relating to collections which had been acquired by the Museum. The first

was to Georgia and the Carolinas, the second to Illinois. In Georgia certain ancient village and stone-working sites were studied and interesting material was secured; while in South Carolina the collections of the museum at Columbia were examined and a visit was made to a large Indian mound on the Congaree River, 12 miles below Columbia, where many relics of stone and earthenware were obtained from an ancient burial ground. In western North Carolina a number of the more important of the prehistoric mica mines were investigated. The old workings were found to be very numerous and extensive; some of the excavations, traces of which still remain, extended to a depth of a hundred feet, and the amount of mica extracted and carried away by the aborigines may be estimated at many hundreds of tons. By digging in the ancient pittings, Mr. Holmes secured specimens of the mica and of the stone implements employed by the natives in their mining work. In southern Illinois an examination was made of an ancient flint quarry where the aborigines obtained the material for their agricultural implements, examples of which as well as of the tools used in the flint-chipping work, together with a quantity of the refuse of manufacture, were collected for the Museum.

Under the joint auspices of the Smithsonian Institution and the Panama-California Exposition authorities, at San Diego, Cal., Dr. Aleš Hrdlička, curator of the division of physical anthropology, conducted personally three important field investigations, relating respectively to geologically ancient man in the Old World, the origin of the American race, and the anthropology and prehistoric pathology of Peru. The first involved the visiting of practically every institution in Europe where authenticated skeletal remains of ancient man are preserved. A large majority of these specimens were examined, and in several instances, especially on the island of Jersey and at Mauer, the localities where they had been found were studied, resulting in a fund of valuable information. A comprehensive account of the trip appeared in the annual report of the Smithsonian Institution for 1912. The second expedition was to Siberia and Mongolia during the summer months of 1912, and was equally successful, many important observations, supported by numerous photographs and specimens, having been secured. The principal result, as set forth in a brief report published in Volume 60 of the Smithsonian Miscellaneous Collections, under the title "Remains in eastern Asia of the race that peopled America," was to the effect that scattered over large parts of eastern Asia are remnants of native peoples, which, notwithstanding a considerable mixture with more recent ethnic elements, show many physical resemblances to the American Indian, indicating at least distant relationships. The Peruvian expedition, which continued from January until the end of April, 1913, amounted,

in fact, to an extension of the field work conducted by Dr. Hrdlička in 1910. Its main objects were to trace the distribution of the principal native types in pre-Columbian times, and to determine, as far as was possible from skeletal remains, the prevalent diseases and injuries and their effect, if any, on the constitution of the people. The work was carried along the coast for 600 miles, and two trips were made into the mountains. Approximately 200 ancient cemeteries and burial caves were explored, affording opportunity for examining over 4,800 crania and a great quantity of other human bones. Important selections from these, including remarkable examples of trephining and rare pathological conditions, were forwarded to the Museum for further study. A somewhat detailed report of this expedition was submitted, and the preparation of a more extensive illustrated account was approaching conclusion at the end of the year. Under the same joint auspices, Dr. R. D. Moore, aid in the division of physical anthropology, spent the summer of 1912 on St. Lawrence Island, Alaska, observing and collecting among the Eskimo. He was successful in obtaining numerous measurements, photographs, casts and skeletal remains, as well as other material, the majority of which it was necessary to leave on the island, to be brought down the following season by one of the steamers of the Revenue Service.

DEPARTMENT OF BIOLOGY.

From only a few sources were the acquisitions received by this department during last year sufficiently diversified to relate to two or more divisions. Most noteworthy among the general collections were those contributed by Dr. W. L. Abbott, resulting from his own explorations in Kashmir, and those of Mr. H. C. Raven, conducted at Dr. Abbott's expense, in northeastern Borneo, embracing mammals, birds, reptiles, and batrachians. Several other expeditions, however, also furnished mixed collections, as described further on, the most important having been one to the Altai Mountains in Asia by Dr. Theodore Lyman. The divisions of fishes, mollusks, and marine invertebrates profited largely, as usual, by the scientific explorations of the Bureau of Fisheries, not only as to number and variety of specimens, but by the receipt of much material, including types, that had been studied and described by experts.

Mammals.—The series of mammals sent from Kashmir by Dr. Abbott and from Borneo by Mr. Raven were both of much value, that from the latter region containing a specimen of the very rare and conspicuous squirrel, *Reithrosciurus*, and two specimens of the hitherto "lost" tree shrew, *Tupaia mülleri*. Of exceptional importance was the collection of mammals, numbering 346 specimens, made by Mr. N. Hollister, assistant curator of the division, on the expedition of

Dr. Theodore Lyman to the Altai Mountains. It represents 33 species, of which 13 have been described as new by Mr. Hollister. Mr. Arthur deC. Sowerby transmitted 81 mammals from China and Mongolia, including a new species; and the Bureau of Fisheries contributed a specimen of a bottle-nosed whale taken at Beaufort, N. C., which proved to belong to a new species, described by Dr. Frederick W. True under the name *Mesoplodon mirum*. A valuable addition to the collection of anthropoid apes consisted of the skulls and skeletons of 23 gorillas and 19 chimpanzees, obtained by exchange. The Museum was also fortunate in securing the mounted skin and skeleton of an exceptionally fine male specimen of the okapi from the Welle district of the Congo. This remarkable animal, which is related to the giraffe and was discovered only about 12 years ago, is represented in but few museums.

The tanning of large and medium-sized mammal skins by contract progressed satisfactorily, and about 275 skins, mostly old specimens in danger of deterioration, were made up by the taxidermist detailed to the division. The labeling and cataloguing of the Rainey African collection were completed, and the same work with reference to the Merriam collection of North American mammals was well advanced. Over 800 large skulls and skeletons, besides a number of miscellaneous bones, were cleaned by the Museum force, and about 2,400 small skulls, by contract. All of the small skulls and skeletons are well arranged, as are also the large skulls of carnivores and primates. Cases furnished during the year made possible a temporary arrangement of the skeletons of these two orders and of the pinnipeds and rodents, but accommodations are still lacking for the skulls and skeletons of the ungulates. The alcoholic specimens are suitably provided for, and considerable progress has been made toward their systematic arrangement, that of the bats and insectivores, composing the most important part of the collection, being nearly completed.

Research work in the division related mainly to Old World mammals, though the most extensive single Museum publication of the year was a list of the North American land mammals represented in the Museum, prepared by the curator, Mr. Gerrit S. Miller, jr. A much larger and more important work by Mr. Miller was, however, issued by the British Museum of Natural History in London, being a catalogue of the mammals of western Europe, which signalized the conclusion of a task on which the curator had been engaged for a number of years, several of which were spent in Europe. Dr. S. F. Harmer, the Keeper of Zoology in the British Museum, explains in a preface that the possibility of issuing the volume grew up mainly from the studies which Mr. Miller had been conducting independently on the subject, and adds: "As Mr. Miller is on the staff of the United States National Museum the special and cordial thanks of the Trus-

tees of the British Museum are due to the authorities of the former institution for the facilities granted to him for carrying through the preparation of the Catalogue, a work which involved a furlough of two years and a half from his usual duties at Washington." It is furthermore interesting to learn from the introduction that while the British Museum has the largest collection of European land mammals extant, numbering about 5,000 specimens, the National Museum, with about 4,000 specimens, follows next, and that without the help of the latter collection a monographic study of these animals could not have been made.

Mr. N. Hollister, assistant curator, was chiefly occupied in working up the collection of mammals from the Altai Mountains, but he also brought nearly to completion an annotated review of the mammals of the Philippine Islands. Dr. M. W. Lyon, jr., formerly of the division, finished a monograph of the tree shrews and began the preparation of a review of the mammal fauna of the Borussan Islands.

Besides members of the Biological Survey of the Department of Agriculture, the collections were consulted by Prof. O. P. Hay, of Washington; Dr. H. H. Donaldson, of the Wistar Institute, Philadelphia, Pa.; Dr. J. S. Foote, of the Creighton Medical College, Omaha, Nebr.; and Mr. Childs Frick, of New York. Specimens were lent for study to Dr. Leisewitz, of Munich, Bavaria; Mr. K. Andersen, of the British Museum; Mr. W. H. Osgood, of the Field Museum of Natural History; Dr. D. G. Elliot, of New York, and others.

Birds.—Most prominent among the additions to this division was the magnificent series of over 5,000 bird skins from Abyssinia and British East Africa, collected by Dr. E. A. Mearns on the Childs Frick expedition, and deposited by Mr. Frick. Containing several generic types not previously in the Museum, this contribution splendidly supplements the earlier collections from East Africa, including those made by the Smithsonian expedition under Col. Theodore Roosevelt and by Dr. W. L. Abbott at Kilimanjaro, and places the Museum in possession of one of the best representations of the bird fauna of that part of the world. Mr. H. C. Raven transmitted 488 specimens from Borneo, and the Bureau of Fisheries 61 skins from Celebes and other islands of the Dutch East Indies, obtained during a recent cruise of the steamer *Albatross*. From this bureau were also received 108 skeletons, 137 eggs, and 2 nests from the Pribilof Islands, and Dr. L. C. Sanford, of New Haven, Conn., contributed 25 skins chiefly from Alaska, including the types of *Loxia curvirostra perena* and *Micropallas whitneyi sanfordi*. Several skins and eggs of rare birds from Samoa and Niuafo Island were presented by Mr. Mason Mitchell, American consul at Apia, among them being the skin and eggs of *Megapodius pritchardi*, which are new to the Museum; and eggs of two other rare species, namely, the ocellated turkey, *Agriocharis*

ocellata, and the Siberian spoon-billed sandpiper, *Eurynorhynchus pygmaeus*, were likewise received as gifts, the former from Mr. C. H. Jones, of San Felipe, Campeche, Mexico, the latter from Mr. L. L. Lane, of Seattle, Wash.

The rearrangement of the reserve series of skins was continued and completed for 21½ quarter-unit cases. Some 300 mounted birds from the old exhibition collection were made over into skins, and the original labels of several hundred mounted specimens were removed from the stands to which they had been glued, and filed away in numerical order for reference. The important work of posting the old catalogues showing the distribution of specimens during the earlier years of the Museum and the search for type specimens were also continued, the latter with some success, a few types being discovered. The Frick African collection was catalogued. The skins received during the year were assigned to their appropriate places in the reserve series, with the exception of the Frick and Abbott collections which are being kept intact pending their study. The eggs were also catalogued but not systematically arranged.

Mr. Robert Ridgway, curator of the division, completed part 6 of his great work on the Birds of North and Middle America, covering the families Picidæ (woodpeckers), Capitonidæ (barbets), Rhamphastidæ (toucans), Galbulidæ (jacamars), Bucconidæ (puffbirds), Alcedinidæ (kingfishers), Todidæ (todies), Momotidæ (motmots), Caprimulgidæ (goatsuckers), Nyctibiidæ (ibijaus), Aluconidæ (barn owls), Strigidæ (owls), and Cuculidæ (cuckoos). The manuscript for the Psittacidæ (parrots), to be included in part 7, was also nearly finished. It is gratifying to make mention in this connection of the signal honor recently conferred on Mr. Ridgway, who has been an active member of the scientific staff of the Museum since 1874, in the awarding to him of the Walker grand honorary prize, given by the Boston Society of Natural History once in five years, in acknowledgment of his investigations in ornithology, and particularly for his work on the Birds of North and Middle America. This prize was founded by the late William Johnson Walker, a benefactor of the Society, and is granted in recognition of important investigations in natural history, published and made known in the United States.

Dr. C. W. Richmond, assistant curator, during such time as could be spared from routine work, studied the Frick collection of African birds with reference to their generic determination, and also investigated and reported on a large number of generic names of birds for the International Commission of Zoological Nomenclature. Mr. J. H. Riley, aid, assisted Mr. Ridgway in the preparation of the manuscript of the Birds of North and Middle America, compiling references and measuring specimens. Dr. E. A. Mearns, U. S. Army (retired), associate in zoology, continued his studies of East African

birds, chiefly those collected by himself on the Smithsonian and Frick expeditions. Mr. A. C. Bent, of Taunton, Mass., spent some time at the Museum in examining various North American birds, more particularly the crossbills.

Members of the staff of the Biological Survey of the Department of Agriculture made constant use of the collection, especially Mr. H. C. Oberholser, who also determined for the Museum several accessions that had recently been received. A large number of ornithologists not connected with the Government likewise visited the division, some of them spending several days in the examination of specimens and books in connection with their investigations. Among these may be mentioned Dr. Thomas Barbour, of the Museum of Comparative Zoology; Mr. F. M. Chapman, of the American Museum of Natural History; Mr. C. B. Cory and Prof. S. E. Meek, of the Field Museum of Natural History; Mr. Witmer Stone, of the Academy of Natural Sciences of Philadelphia; Mr. W. E. Clyde Todd, of the Carnegie Museum; Mr. Childs Frick, of New York; Mr. C. J. Maynard, of West Newton, Mass.; Dr. L. C. Sanford, of New Haven, Conn.; Mr. H. H. Bailey, of Newport News, Va.; Mr. Lacy I. Moffett, of Kiangyin, China; and Mr. Charles T. Ramsden, of Guantanamo, Cuba. The collection of birds' eggs was consulted by Mr. Edward Arnold, of Battle Creek, Mich.; Mr. E. J. Court, of Washington; Mr. A. M. Ingersoll, of San Diego, Cal.; and Mr. Geo. H. Stuart, of Philadelphia, Pa. Dr. R. W. Shufeldt, of Washington, examined a number of skeletons. Specimens were lent for study to several museums and other institutions, as follows: The Academy of Natural Sciences of Philadelphia, the American Museum of Natural History, the Boston Society of Natural History, the California Academy of Sciences, the Carnegie Museum, the Field Museum of Natural History, the Museum of Comparative Zoology, the Museum of Vertebrate Zoology of the University of California, and the British Museum of Natural History.

Reptiles and batrachians.—Besides the reptiles contained in the collection received from Mr. Raven, a considerable number of specimens from Borneo were presented by Mr. D. D. Streeter, who, as a temporary collaborator of the Museum, visited that island during the year. Mr. Arthur deC. Sowerby transmitted material from China; Dr. J. C. Thompson, U. S. Navy, from California; and Dr. J. N. Rose, from the West Indies. Several specimens of the recently described *Neoseps reynoldsi* from Florida were obtained by Mr. N. R. Wood, of the Museum staff; and the type specimens of two new salamanders, described by Mr. C. S. Brimley, of Raleigh, N. C., as *Plethodon metcalfe* and *Spelerpes ruber schencki*, were received from the latter as a gift.

The collections of the division received the care and attention necessary to their preservation, and considerable progress was made in the transfer of specimens to glass-stoppered jars which are better

adapted to their keeping than the older pattern. The head curator of the department, Dr. Leonhard Stejneger, who also retains charge of this division, continued, as time permitted, his researches on Philippine herpetology, and completed his report on the reptiles and batrachians collected by the Yale Peruvian expedition of 1911. The division was visited for the examination of material by Dr. Thomas Barbour and Dr. J. S. Foote; and specimens were lent for study to Dr. Alex. G. Ruthven, head curator of the Museum of the University of Michigan; Dr. J. C. Thompson, U. S. Navy, attached to the steamer *Albatross*; Dr. Charles A. Kofoid, of the University of California; and Dr. Barbour.

Fishes.—While the number of specimens received by this division was much below the average, the number of types acquired was exceptionally large, not less than 110, besides numerous paratypes, having been contained in a single collection from the Bureau of Fisheries, which also deposited the type and paratype of *Hadropterus sellaris*, and the type and 11 other specimens of *Pseudopleuronectes dignabilis*. Leland Stanford Junior University presented the type specimen of *Atherinops oregonia* and paratypes of six new species of Japanese fishes; while Dr. David Starr Jordan donated the type of *Gnathypops ionis* from Japan, and was instrumental in obtaining the type of *Anguilla manabei*, also from Japan, as a gift to the Museum from Prof. Yoshiro Manabe. The type of *Pontinus microlepis* and three specimens of the rare *Plectrypops retrospinis*, new to the collection, were contributed by Dr. Tarleton H. Bean, of the Conservation Commission of New York. A number of desirable specimens from Cape Lookout, N. C., were received from Mr. Russell J. Coles, of Danville, Va., and others were acquired through exchange from the Field Museum of Natural History, and the Australian Museum at Sydney.

The very extensive collections of the division are reported to be in good condition, but their increase in recent years has more than taxed the energies of the few persons attached to the division, and a general revision is now called for and should soon be undertaken. Such a work would be expected to result in a considerable reduction in the bulk of material, and to release a large number of specimens to be used for exchanges, and for distribution to schools and colleges.

Though mainly occupied with routine work, the assistant curator of the division, Mr. Barton A. Bean, continued his investigation of the fishes of the District of Columbia and of Florida, and the aid, Mr. A. C. Weed, his study of the pike family (*Esocidae*). Dr. Hugh M. Smith, U. S. Commissioner of Fisheries, and Mr. Lewis Radcliffe, of the Bureau of Fisheries, made constant use of the collections in connection with their researches on the fishes of the Philippine Islands, as did also Mr. S. F. Hildebrand, of the same bureau, and Dr. S. E. Meek, of the Field

Museum of Natural History, in conjunction with their investigation of the fishes of Panama. Prof. T. D. A. Cockerell, of the University of Colorado, was present during a short time, making a study of the scales of fishes, and specimens were lent to the American Museum of Natural History and Leland Stanford Junior University.

Insects.—Most noteworthy among the accessions to this division was a collection of about 15,000 forest insects, accompanied by examples of their work and by copious notes, which was deposited by the West Virginia Agricultural Experiment Station in order that it might be accessible for the study of certain economic problems by the Government. Some 3,600 insects, mostly from Great Britain and North America, were presented by Mr. J. R. Malloch, of Washington, and over 2,500 specimens were transferred by the U. S. Bureau of Entomology. Eighty named bees, new to the collection and including paratypes of 12 species, were donated by the Department of Entomology of the University of Nebraska; and 218 bees of the family Meliponidæ, also named and including 90 cotypes, were purchased from Dr. H. Friese, of Schwerin, Germany. As a nucleus for the series of insects in the faunal exhibit of the District of Columbia a collection of local beetles, numbering about 10,000 specimens, remarkable for its completeness and excellence of preparation, was acquired by purchase from Mrs. C. E. Burden, of Falls Church, Va.

While the collections of the division have been kept in good condition as regards preservation, it has not been possible to make the progress desired in transferring the specimens from the old style of drawers to those of the lately adopted standard pattern, specially designed for their better protection from pests and dust, owing to the lack of means for employing a sufficient number of skilled preparators to properly expedite the work. The transferring during the year was mainly restricted to the orders Odonata, Coleoptera, and Hymenoptera.

The curator of the division, Dr. L. O. Howard, collaborating with two of his assistants, Dr. Harrison G. Dyar and Mr. Frederick Knab, completed for the Carnegie Institution of Washington the monumental work on the mosquitoes of North and Central America and the West Indies, on which they have been engaged for some time. The associate curator, Mr. J. C. Crawford, continued his studies of the Hymenoptera, and described a large number of new genera and species. Mr. J. R. Malloch finished the preparation of an account of the dipterous family Phoridae, and Mr. A. A. Girault, a monograph of the Signiphorinae, a subfamily of Hymenoptera. Many smaller detached studies by the custodians of the various branches of the collections are indicated by their titles in the bibliography at the end of this report. Among the students who visited the division for the purpose of examining material in furtherance of their researches were Mr. M. D.

Leonard, of Cornell University; Dr. Frank E. Lutz, of the American Museum of Natural History; Dr. W. T. M. Forbes, of Worcester, Mass.; Mr. J. R. de la Torre Bueno, of White Plains, N. Y.; Mr. G. P. Engelhardt, of the Children's Museum, Brooklyn; and Mr. H. G. Barber, of Roselle Park, N. J. Specimens were lent to specialists as follows: Hemiptera and Coleoptera to Mr. Fred Muir, of the Hawaiian Sugar Planters' Experiment Station, Honolulu, H. I.; Coleoptera to Mr. George C. Champion, of London, England, and Mr. Robert D. Glasgow, of Urbana, Ill.; Hemiptera to Mr. J. R. de la Torre Bueno; Hymenoptera to Mr. P. H. Timberlake, of the Bureau of Entomology, and Mr. H. L. Viereck, of Philadelphia; Diptera to Dr. O. Kröber, of the Naturhistorisches Museum, Hamburg, Germany, Mr. C. W. Johnson, of the Boston Society of Natural History, Dr. E. P. Felt, of Albany, N. Y., Mr. H. E. Smith, of Wellington, Kans., and Prof. J. M. Aldrich, of the University of Idaho; Odonata to Dr. Philip P. Calvert, of the University of Pennsylvania, and Euplexoptera to Dr. Malcolm Burr, of Dover, England.

Mollusks.—The cotypes of 12 species of Australian mollusks described by him were presented by Dr. J. C. Verco, of Adelaide, South Australia, and the type specimens of several new species of marine shells as well as other specimens were received as a gift from the late C. W. Gripp, of San Diego, Cal., and from his estate after his death. Other noteworthy contributions consisted of recent and fossil shells from Venezuela, received from Dr. Ralph Arnold, of Los Angeles, Cal.; land shells from the Bahama Islands and the Dutch East Indies, and marine shells from Panama, received from Mr. John B. Henderson, of Washington; land, fresh-water and marine shells from Mexico and Texas, received from Mr. Charles R. Orcutt, of San Diego, Cal.; and land and fresh-water shells from Lake Winnipeg and vicinity, received from Mrs. W. W. Hipsley, of Manitoba. Many fine examples of *Cypraea* from Honolulu were obtained from Mr. I. B. Hardy, of Santa Barbara, Cal., in exchange.

The reserve collections are reported as accessible and in good order. A beginning has been made toward revising the arrangement of the west American coast fauna, and for several of the larger genera this work has been finished. The extensive additions made to the marine collection from South Africa by Lieut. Col. W. H. Turton have been mainly worked up and will result in an exceptionally fine representation from that region. Over 11,500 lots of specimens were registered. For the exhibition collections the synoptical and Acadian faunal series were completed and have been installed, that for the District of Columbia has been made ready, and the series illustrating the Virginian and Floridian regions are well under way.

The curator of the division, Dr. William H. Dall, commenced work on a revision of the marine mollusks of the North Pacific coast, beginning with the Nuculacea and Buccinidæ, while the assistant curator, Dr. Paul Bartsch, continued his studies of the mollusks of South Africa and the Philippine Islands, in which good progress was made. Mr. John B. Henderson spent much time at the division pursuing his investigations of the Antillean mollusk fauna, and the collections were consulted by the Hon. T. H. Aldrich, of Birmingham, Ala.; Miss Julia Gardner, of Johns Hopkins University; and Mr. L. S. Frierson, of Frierson, La.

Marine invertebrates.—The principal accessions received by this division came, as usual, from the Bureau of Fisheries, and consisted chiefly of material that had been worked up and reported upon by specialists. Of schizopod crustaceans collected on the *Albatross* cruises of 1899–1900 and 1904–1905 in the Pacific Ocean under the direction of Alexander Agassiz, and described by Dr. H. J. Hansen in the Memoirs of the Museum of Comparative Zoology, there were about 2,500 specimens, representing 63 species, of which 8 were new to science and 2 had been made the types of new genera. Of echinoids or sea urchins from several Pacific explorations of the *Albatross*, described by Dr. Hubert Lyman Clark in the same Memoirs, there were some 1,300 specimens, representing 52 species of which 14 were new. Of echinoderms other than crinoids obtained during a cruise of the steamer *Albatross* to the west coast of Mexico in 1911 under the direction of Dr. C. H. Townsend, and also described by Dr. H. L. Clark in a report not yet published, there were 986 specimens, representing 104 species, of which 7 were new. Of simple ascidians from the collections made by the Fish Commission on the Atlantic coast of the United States between 1871 and 1887, described by Dr. W. G. Van Name in the Proceedings of the Boston Society of Natural History, there were about 250 specimens, representing 34 species, of which 8 were new. About 900 samples of plankton and 348 microscopic slides of foraminifera were also received from the Bureau of Fisheries. Mr. Harry K. Haring, of Washington, presented 139 species of rotifera, of which 5 were new, mounted on microscopic slides, this important contribution more than doubling the representation of this order of minute worms in the Museum collection. From the Muséum d'Histoire Naturelle at Paris, France, 9 species of shrimps of the family Atyidæ new to the Museum and including cotypes of 3 new species described by Prof. E. L. Bouvier, were obtained by exchange.

The work of improving the condition of the reserve collections of the division and making them more accessible for reference was satisfactorily continued, the alcoholic specimens of echinoids, asteroids, holothurians, alcyonarians and actinians being overhauled, the nomen-

clature revised, fresh labels attached to the outside of the jars and a systematic arrangement effected. At the same time the card catalogue of these groups was brought down to date. The cataloguing of current accessions was promptly attended to, and that of several large collections which had fallen in arrears was made up. A number of sets of duplicate specimens was prepared for distribution to schools and colleges, and much time was spent in selecting material for the exhibition series.

Miss Mary J. Rathbun, assistant curator, finished the preparation of a report on the stalk-eyed crustaceans of the Dutch West Indies, based on a collection made by Dr. J. Boeke in 1905, which is to be published by the Dutch Government in a series dealing with the resources of those islands. She also identified most of the Japanese crabs sent for that purpose by the University of Tokyo, and concluded the working up of the large collection of Philippine crabs of the families Ocypodidæ and Grapsidæ, in the same connection studying and determining all of the specimens belonging to the same families contained in the general Museum collection. A report on the Philippine specimens is nearly ready for publication. Mr. Austin H. Clark, assistant curator, conducted investigations upon a number of collections of recent crinoids, mostly received from abroad, some of which were finished, while others are still in progress, and he also completed revisions of a number of families and genera of crinoids. In cooperation with Mr. Frank Springer, he prepared a treatise on crinoids for a new edition of Zittel's Paleontology, and a part of the section on the Holothuroidea for the same publication was furnished by him. Dr. Harriet Richardson, collaborator, continued her studies on isopods and identified a number of specimens from various sources, including small collections obtained by the Bureau of Fisheries steamer *Albatross* on the west coast of Mexico in 1911, and by the French Antarctic Expedition, the latter collection belonging to the Museum of Natural History in Paris.

The resources of this division are so great and so diversified that it would be quite impossible to depend upon its small staff for all of the research work necessary for the entire classification of the collections placed in its custody. For this reason it has long been the policy to seek the help of zoologists specializing in the various groups of marine and other aquatic invertebrates wherever they may be located, and it has also been the good fortune of the Museum to receive such assistance freely and almost wholly without other obligation than a right to share in the division of the duplicate specimens yielded by each collection as it is studied. A full statement of this cooperative work would involve the names of most of the prominent experts of the world in the subjects covered by the

division. During last year these volunteer collaborators represented 11 different States of this country, besides Great Britain, France, Germany, and Denmark. Reports for publication were received from several of these, as follows: Dr. R. Koehler, of Lyon, France, on a large collection of ophiurans chiefly from the West Indies; Dr. H. B. Bigelow, of the Museum of Comparative Zoology, on the Medusæ and Siphonophoræ collected by the steamer *Albatross* in the northwestern Pacific Ocean in 1906; Dr. Walter Faxon, of the same Museum, on the crayfishes received by the Museum during the past 15 years or since his last report upon the subject; Dr. William E. Ritter, of the Scripps Institution for Biological Research, at La Jolla, Cal., on the simple ascidians from the northeastern Pacific Ocean; Dr. Joseph A. Cushman, of the Boston Society of Natural History, the third part, covering the family Lagenidæ, of his monograph of the foraminifera of the north Pacific Ocean; Dr. C. Dwight Marsh, of the Department of Agriculture, on the fresh-water copepods of Panama, based on material mainly collected by himself; and Dr. A. S. Pearse, of the University of Wisconsin, on a collection of amphipods from the Pribilof Islands, Alaska.

The following important investigations, previously begun, were in progress, namely, on the starfishes of the north Pacific Ocean, by Dr. Walter K. Fisher, of Leland Stanford Junior University; on parasitic copepods, by Dr. Charles B. Wilson, of the State Normal School at Westfield, Mass.; on the sessile Cirripedia, by Dr. H. A. Pilsbry, of the Academy of Natural Sciences of Philadelphia; on the family Crangonidæ of shrimps, by Dr. H. Coutière, of the École Supérieure de Pharmacie, Paris, France; on the order Euphausiacea of crustaceans, by Dr. H. J. Hansen, of the Zoological Museum, Copenhagen, Denmark; on the order Mysidacea of crustaceans, by Dr. W. M. Tattersall, of the Manchester Museum, Manchester, England; on the bryozoans of the Atlantic coast of North America, by Dr. R. C. Osburn, of Barnard College, New York City; and on the rotifers of the District of Columbia, by Mr. Harry K. Harring, of the Bureau of Standards. Other extended researches were taken up during the year by Prof. Frank Smith, of the University of Illinois, on the oligochete annelids; by Mr. R. Southern, of Dublin, Ireland, on the family Cirratulidæ of annelids; by Dr. J. W. Spengel, of Giessen, Germany, on the genus *Sipunculus* of worms; and by Prof. Maynard M. Metcalf, of Oberlin College, on the collection of *Salpa* and *Pyrosoma*. Dr. H. B. Bigelow began the examination of the many samples of plankton collected in the Gulf of Maine during the summer of 1912 by the Bureau of Fisheries schooner *Grampus*.

Acknowledgments are also due to the following persons for the identification of specimens sent to them from time to time belonging in the groups named respectively after each, namely, Dr. H. V.

Wilson, of the University of North Carolina, marine sponges; Dr. N. Annandale, of the Indian Museum at Calcutta, fresh-water sponges; Dr. Alice Robertson, of Wellesley College, Pacific coast bryozoans; Prof. C. C. Nutting, of the University of Iowa, hydroids and alcyonarians; Prof. H. B. Torrey, of Reed College, Portland, Oreg., actinians; Dr. H. L. Clark, of the Museum of Comparative Zoology, echinoderms; Prof. J. Percy Moore, of the University of Pennsylvania, annelids and leeches; Dr. E. L. Michael, of San Diego, Cal., chaetognath annelids; Dr. W. R. Coe, of Yale University, nemerteans; Miss A. L. Weckel, of Oak Park, Ill., fresh-water amphipods; and Dr. A. G. Huntsman, of the University of Toronto, compound ascidians. The loans made to assist in investigations other than for the Museum comprised specimens of bryozoans, sent to Mr. H. T. White, of Sudbury, Canada; Philippine sea urchins of the family Cidaridæ, sent to Dr. Th. Mortensen, of the Zoological Museum, Copenhagen, Denmark; shrimps of the family Atyidæ, sent to Prof. E. L. Bouvier, of the Muséum d'Histoire Naturelle, Paris, France; crayfishes, sent to Prof. H. Garman, of the State University of Kentucky; and specimens of the family Pontoniidæ of crustaceans, sent to Dr. L. A. Borradaile, of Selwyn College, Cambridge, England.

Plants.—The total number of specimens acquired by the division of plants was approximately 140,000, of which about 80,000 were comprised in the collection of grasses, forming part of the National Herbarium, which had long been cared for and received its main growth in the Department of Agriculture, and which during the year was transferred to the custody of the Museum. Other grasses to the number of about 12,800 were obtained by purchase. They composed the private collection of Prof. A. S. Hitchcock, containing, besides specimens gathered by Prof. Hitchcock and Mrs. Agnes Chase, a large amount of material formerly belonging to Prof. F. L. Scribner, and the types of over 200 species first described by him. Through these additions the grass collection now brought together in the division of plants becomes the largest and most comprehensive one in this country.

Another noteworthy accession was the herbarium of Prof. E. O. Wootton, consisting of about 10,000 specimens mostly from New Mexico, to which a particular value attaches because of the fact that much of the material, obtained in many and often remote parts of the State, was not gathered in duplicate, on which account the collection furnishes the only means of substantiating the records of a large number of species. A set of 621 specimens, of which about one-third are cotypes, from the Schomburgk collection of British Guiana plants, received in exchange from the British Museum of Natural History, forms an especially desirable acquisition, in view of the active botanical investigations recently conducted in Panama,

as the National Herbarium is very deficient in material from South America. Among other important additions were about 7,000 plants from the West Indies, collected by Dr. J. N. Rose and assistants; and nearly 3,000 specimens, chiefly from the same region, obtained in exchange from the New York Botanical Garden.

An exceptionally notable contribution was the well-known collection of diatoms assembled by the late Prof. C. Henry Kain, of Philadelphia, Pa., said to be the largest and most diversified in this country and one of the finest in the world, which was received as a gift from Mrs. Kain.

Reference should also be made to the generous gift by Miss Eleanor Lewis, of Yellow Springs, Ohio, of over 500 flower studies in water color, composing all that had been kept together of the large and well-known series painted by her aunt, the late Miss Adelia Gates during extensive travels in this country, Europe, Palestine, and the northern part of Africa. Additions to the collection have been promised by several friends of Miss Gates, among whom a considerable number of the paintings were distributed.

The number of mounted plants added to the herbarium was approximately 111,500, of which the greater part, consisting of the grasses in the two large collections, were received in that condition. The number of specimens mounted in regular course was about 18,000, including some material in arrears, leaving at the end of the year less than 5,000 specimens to be so prepared. Owing to the unusual extent of the accessions and to a considerable accumulation of material, the work of distributing specimens to their appropriate places in the herbarium involved more than the customary amount of labor. The segregating of types and of collections representing type material was continued with good progress, and a large number of duplicates were separated and prepared for distribution.

Mr. Frederick V. Coville, curator of the division, continued his studies on the Vacciniaceae. Mr. W. R. Maxon, assistant curator, prepared two papers on tropical American ferns, identified the Panama specimens of several genera of the same group, and gave some time to the preparation of copy for the fern portion of the North American Flora. Mr. P. C. Standley, assistant curator, determined the species of certain families of plants in collections from Panama and, mainly in this connection, monographed several small genera of tropical American forms. In collaboration with Prof. E. O. Wootton, he also prepared a paper describing over 200 new species from New Mexico, consisting of excerpts from the manuscript of the flora of New Mexico mentioned in the last report. This manuscript was also under revision by Mr. Standley to adapt it for publication in the Contributions from the National Herbarium. Mr. E. S. Steele, in addition to his editorial work, pursued his study of the genus *Laciniaria*.

Dr. J. N. Rose, formerly associate curator of the division, but now on furlough and serving as a research associate of the Carnegie Institution of Washington, continued, at the Museum, his investigation of the family Cactaceae, and in conjunction with Mr. Standley published a revision of the North American species of *Meibomia*, section *Nephromeria*. Dr. E. L. Greene, associate in botany, reported progress in the preparation of part 2 of "Botanical Landmarks," and published numerous short papers descriptive of new species mostly from the western United States. Capt. John Donnell Smith, also associate in botany, continued his studies of previous years on the flora of Central America, and brought together partial results in two papers published during the year.

Among persons not connected with the Government who made use of the resources of the division may be mentioned Dr. N. L. Britton, director of the New York Botanical Garden, who is engaged jointly with Dr. Rose in the investigation of the Cactaceae; Dr. D. T. MacDougal, in charge of the department of botanical research of the Carnegie Institution of Washington; Prof. William Trelease, of the University of Illinois, who was studying *Phoradendron* and the oaks of Mexico and Central America; and Dr. P. A. Rydberg, of the New York Botanical Garden, who had in preparation a flora of the Rocky Mountain region and an article on the family Rosaceae for the North American Flora.

The number of plants lent to other institutions and to specialists was larger than in any year except the previous one, the principal sendings having been as follows: To the Royal Botanical Garden and Museum, Berlin, Germany, specimens of Acanthaceae, Araceae, Euphorbiaceae and Orchidaceae, mainly from Panama, for determination for the benefit of the National Museum; and specimens of *Zamia* and *Saxifragaceae* for use in the preparation of matter for the "Pflanzenreich." To Prof. L. Radlkofer, of the Royal Botanical Museum, Munich, Germany, specimens of Sapindaceae chiefly from Panama, and to Dr. Georg Bitter, of Bremen, Germany, specimens of *Solanum*, for naming in the interest of the National Museum. To the Royal Botanic Gardens, Kew, England, specimens of the genus *Marah*. To the University of Pennsylvania, specimens of *Gerardia*, *Dasystoma* and related genera, for the use of Mr. F. W. Pennell, who is preparing an elaborate revision of this group. To the Gray Herbarium of Harvard University, specimens of several groups for study by Dr. B. L. Robinson, Prof. M. L. Fernald, Mr. Sidney F. Blake, and Mr. F. T. Hubbard. To the New York Botanical Garden, specimens of *Vacciniaceae* and *Rosaceae* for use in preparing articles for the North American Flora, and specimens of Rocky Mountain plants for study by Dr. P. A. Rydberg. To Prof. C. O. Rosendahl, of the University

of Minnesota, specimens of the genus *Mitella*, and to Mr. Marcus E. Jones, of Salt Lake City, Utah, specimens of *Astragalus*.

Explorations.—The expedition of Mr. Childs Frick, of New York, to eastern Africa, of which Dr. E. A. Mearns, U. S. Army (retired), an associate of the Museum, was a member, and which left London in January, 1912, as described in the last report, terminated in September following. Starting from French Somaliland, the party proceeded through Abyssinia to British East Africa by way of Lake Stefanie and Lake Rudolf, finally reaching Mombasa. Forming part of the extensive collections of natural history obtained was a fine series of about 5,000 birds, the subject of Dr. Mearns' particular attention, which Mr. Frick has generously placed in the Museum.

The hunting trip made by Dr. Theodore Lyman, of Harvard University, to the region of the Altai Mountains in Asia, on which he was accompanied by Mr. N. Hollister of the Museum staff, met with very gratifying results. The party was absent from May until September, 1912. Its course was over the Trans-Siberian Railroad to the Obi River, and up the latter by boat and later by tarantas and pack train to the frontier range between Siberia and Mongolia. Collecting was mainly done on the Siberia side and the mammals and birds obtained, about 650 in number, have, through the courtesy of Dr. Lyman, been divided between the Museum of Comparative Zoology and the National Museum.

Reference was made in the last report to the fund generously provided by Dr. W. L. Abbott for the purpose of sending a naturalist to Borneo to continue the important natural history exploration of that island which he had personally carried on for a number of years, greatly to the advancement of the collections of the Museum. At the close of the year, Mr. H. C. Raven, who was dispatched on this mission, had been absent about 16 months. While no formal report has been received from him, it is known that he has followed along the lines planned by Dr. Abbott, which were to explore in as much detail as possible the coast rivers and islands of the northern half of the south and east division of Dutch Borneo, which Dr. Abbott had not been able to visit, paying particular attention to the mammals besides collecting any ethnological objects that might be of interest. The material which Mr. Raven has already transmitted testifies that his work is proceeding successfully. Dr. Abbott, who returned to Kashmir early in the spring of 1912, interested himself in trapping and studying the habits of the smaller mammals of that country, of which he presented the Museum with a large number of specimens, mostly from Baltistan, accompanied by much interesting information. Mr. Arthur deC. Sowerby continued his collecting work in China and forwarded during the year a number of mammals and reptiles.

In 1904 Mr. Gerrit S. Miller, jr., and Dr. Leonhard Stejneger conducted field work in the western Alps of Europe, with the object of comparing the vertical distribution of life in that region with the life zones of North America. Certain of the problems connected with this study were left undecided chiefly on account of present-day conditions believed to be of local significance only. During the spring of 1913, under a grant from the Smithsonian Institution, Dr. Stejneger renewed these observations in the eastern Alps, where the conditions were supposed to be more favorable. A month, beginning April 20, was given to this work, the time being mainly devoted to an investigation of the territory between the valley of the River Etsch or Adige, as far north and west as Schlanders in Austrian Tirol, and the valley of the River Brenta in Italy, especially the Val Sugana and the plateau of the Sette Comuni, the Etsch valley in Tirol below Trient, including Lake Garda, and between Bozen and Schlanders. Dr. Stejneger was able to trace in some detail the limits of the lower and upper Austral life zones, and corroborated the previous observations in Switzerland relative to the distribution of the coniferous trees. Inclement and rainy weather interfered with the work to some extent and frustrated frequent attempts to make extensive collections for the Museum.

The three young naturalists who started into the field the previous year as temporary collaborators of the Museum all met with gratifying results in their collecting work. Mr. D. D. Streeter, of Brooklyn, N. Y., who was absent from the middle of April until into December, 1912, passed from Sarawak into Dutch Borneo by ascending the Rejang River and crossing the mountains on the dividing line to the Kajan River. He then ascended to the head of this river and crossed another range to the headwaters of the Mahakam River, which he descended to the Strait of Macassar. He secured a small but interesting collection of mammals, reptiles, and batrachians, including two rhinoceros skulls. Mr. George Mixter, of Boston, Mass., spent the summer of 1912 in the vicinity of Lake Baikal, Siberia, the main object of his trip being to obtain specimens of the native bear and of the seal peculiar to Lake Baikal. Besides good examples of both of these he also collected some small mammals, and specimens of sponges and crustaceans from the lake. Mr. Copley Amory, jr., of Cambridge, Mass., joined the Coast and Geodetic Survey party, under Mr. Thomas Riggs, jr., which was engaged in surveying on the Alaska-Canadian boundary during the summer of 1912. Reaching New Rampart House on July 11, with a trapper and three dogs, he packed over the mountains for 60 miles to the base of supplies on the Old Crow. After a trip north to Joe Creek, a tributary of the Firth, lasting two weeks, he proceeded with Mr. Riggs some 40 miles to the southwest of Old Crow in the caribou country.

Finally, in a canvas boat, built for the purpose, he made his way down to the mouth of the river, a distance of about 300 miles. Mr. Amory obtained about 60 mammal skins, including a series of caribou, besides many bones of fossil mammals of much interest, which are referred to elsewhere.

Mr. A. C. Bent, of Taunton, Mass., spent the months of June, July and August, 1912, in Newfoundland and Labrador for the purpose of gathering further material and information for the work on the life histories of North American birds which he has volunteered to continue. He visited a wide range of territory, in which he had excellent opportunities for making observations, especially on the breeding places and habits of the birds of the region. The trip proved very successful, important data and a number of interesting photographs being secured. Some specimens of birds were also collected.

Dr. Paul Bartsch, assistant curator of mollusks, was enabled to make a second trip to the Florida Keys and the Dry Tortugas, through the courtesy of Dr. Alfred G. Mayer, director of the Marine Biological Laboratory of the Carnegie Institution of Washington, and as a guest of that institution on board the steamer *Anton Dohrn*. He was absent about three weeks, from April 20, 1913, during which he visited the several places where living specimens of the two races of the genus *Cerion* of land shells from the Bahama Islands were planted the previous year with the object of determining the effect of change of environment. Notes were made on the condition of the specimens, and collections of various groups of marine invertebrates were obtained for the Museum. Dr. T. Wayland Vaughan, of the Geological Survey and custodian of madreporarian corals in the Museum, also spent a short time at the Carnegie laboratory on the Dry Tortugas, studying the growth of stony corals and incidentally collecting specimens of coral for the Museum. Mr. John B. Henderson, a regent of the Smithsonian Institution, conducted further explorations among the Florida Keys with his yacht *Eolis* during the spring of 1913, and from the collections made he generously contributed an excellent series of marine invertebrates accompanied by color notes on some of the more striking forms. Dr. J. W. Fewkes, of the Bureau of American Ethnology, during archeological explorations in the West Indies, obtained for the Museum a small collection of sponges at Grand Cayman Island, a dependency under Jamaica.

Through the courtesy of Dr. J. N. Rose and Dr. N. L. Britton, Mr. Paul G. Russell, of the division of plants, was permitted to accompany a joint expedition of the Carnegie Institution of Washington and the New York Botanical Garden to the West Indies for the purpose of obtaining plants for the National Museum. The special object of the trip was the investigation of the cactus flora, but about 7,000 specimens of other groups were also secured, chiefly in the Lesser

Antilles and Santo Domingo, besides a number of reptiles and batrachians. Mr. P. C. Standley, assistant curator of plants, collected while on leave in Missouri about 1,000 specimens of plants, which he presented to the Museum.

Collecting work in the vicinity of Washington, mainly for fishes, though some invertebrates were also obtained, was carried on from time to time by members of the staff, without expense to the Museum. It was mainly confined to the Potomac River and its tributaries from Plummer's Island to Mattawoman Creek, to branches of the Patuxent River, and to Chesapeake Bay several miles south of Chesapeake Beach. Those who participated in these trips were Mr. Barton A. Bean, Mr. William Palmer, Mr. A. C. Weed, and Mr. Ernest B. Marshall.

Exhibition collections.—The preparators of the department were chiefly occupied during the year in mounting specimens for and arranging the exhibition collections. The American mammals, the marine invertebrates, and certain osteological material, which had remained in the older buildings, were, with the exception of several whale skeletons, transferred to and mainly reinstalled in the new building. The most difficult part of this task consisted in dismantling and reconstructing the two large groups of American bison and moose. The moose group, which had been too greatly crowded, was much improved by the removal of two specimens, but the bison group was not changed. The other groups, namely, those of the Rocky Mountain sheep and goats, the reindeer, antelope, and musk ox, though not requiring to be rebuilt, needed extensive repairs, which was also true of many of the specimens mounted separately, and notably the large Pacific walrus, the sea elephant, the California sea lions, the manatee, and the dugong. The work connected with the mammals was mostly done by Mr. George Marshall and Mr. C. E. Mirguet, and that with the osteological specimens by Mr. J. W. Scollick.

The African, oriental, and palearctic mammals were overhauled and placed in the new cases provided for them. Owing to delay in securing the accessories desired for the zebra-oryx group, a temporary installation was effected which made it possible to exhibit this beautiful example of the taxidermist's art at the formal opening of the mammal hall on April 22, 1913. For the same occasion the African buffalo group was also temporarily arranged, and the fourth large case, destined for the rhinoceros group, was filled with individual specimens collected by the Smithsonian African Expedition. Subsequently the buffalo group, a very effective piece of work by Mr. George B. Turner, chief taxidermist of the Museum, was permanently installed, and near the end of the year, Mr. J. L. Clark, of New York, completed the white rhinoceros group, on which he had been

engaged for nearly two years. The latter is believed to represent the highest development of taxidermy either in this country or abroad, not only in the artistic grouping, the well-balanced design, and the truthful modeling of the animals themselves, but also in the masterly treatment of the accessories. Moreover, by resorting to a new technique in mounting the dry skin on the manikin, it is believed that a degree of permanency has been secured which was impossible by the older methods.

A beginning was made in transferring the bird groups into new all-glass top or mahogany frame cases, and the opportunity thus afforded was utilized for repairing and otherwise improving the exhibits. By a change in the arrangement of the general cases in which the birds are displayed it has been possible to locate these groups to better advantage and to increase the effectiveness of the hall. Forty-eight birds were mounted and a number remodeled for the exhibition series by Mr. N. R. Wood.

The outer end of the west wing on the second floor was opened to the public early in March, this having been rendered feasible by the rapid progress made in repairing and remounting the several hundred plaster casts of American fishes which now occupy the wall cases and some of the floor cases in that space. The old standards and bases formerly used for them were entirely discarded, and the casts fastened directly on the backs of the cases, except those of the flat-fishes, which are placed horizontally on sandy bottoms in table cases. Though the amount of work involved in restoring this material, mainly performed by Mr. William Palmer, was very great, it is fully justified by the results, and in its present condition the collection is as attractive as it is interesting and instructive. Under the direction of Dr. Paul Bartsch, considerable advancement was made with the installation of marine invertebrates in the south hall of the second floor, a large number of specimens having been prepared and colored, and the arrangement of the fauna north of Cape Cod tentatively completed.

The greater part of the systematic series of animals and the faunal series of the District of Columbia were transferred to new cases. In the osteological hall three new cases were added, namely, a large wall case containing a comparative exhibit of the limbs of vertebrates; a table case containing articulated and disarticulated skeletons of the various classes of vertebrates; and another of the same kind in which the chemical constituents of the animal body are illustrated. A new and striking feature introduced among the exhibits consists of 19 greatly enlarged models of the heads of as many different kinds of bats, done in wax by Mr. E. E. Hannan and afterwards cast in plaster, which serve to bring out clearly the peculiar physiognomy of these small mammals.

DEPARTMENT OF GEOLOGY.

The department of geology received 168 accessions aggregating 20,285 specimens, distributed among the several divisions and sections, as follows: Systematic and applied geology, 586; mineralogy and petrology, 4,983; invertebrate paleontology, 12,268; vertebrate paleontology, 647; and paleobotany, 1,801. Excellent progress was made in all branches of the work, including the classification and arrangement of the reserve collections, the improvement of the exhibition series, and the perfecting of the records of specimens, to such an extent, in fact, as to place the department in much better condition than at any previous time in its history. All of the collections, with the exception of certain unworked material, have been made readily accessible, and by means of systematic card catalogues, which have been mostly brought down to date, the exact location of any particular specimens may be quickly ascertained.

Systematic and applied geology.—Among the more important accessions to this division were a beautiful specimen of arborescent copper free from gangue, and another showing the same occurrence on a smaller scale in the original sandstone. They came from mines near La Paz, Bolivia, and were received from the U. S. Geological Survey. Exceptionally fine examples of zinc ores showing aurichalcite and smithsonite from the Tintic mining district, Utah, were presented by the Yankee Consolidated Mining Company, of Salt Lake City, through Mr. Victor C. Heikes. A series of radio-active materials and products, assembled by Dr. George F. Kunz, of New York City, and transmitted by him as a gift, includes specimens from Sir William Crookes, of London, England, and Dr. Alexander Phillips, of Princeton University. A number of interesting laterite specimens from various localities in India were obtained in exchange from the Geological Survey of India. The additions to the meteorite collection were as follows: Three nearly complete individuals of the Holbrook meteoric stone which fell July 19, 1912, near Aztec, Ariz., donated by Mr. F. C. Chekal, of Holbrook, Ariz.; an excellent example of a nearly complete individual of the Holbrook meteorite, weighing 1,120 grams, the gift of Mr. Clarence S. Bement, of Philadelphia, Pa., through Prof. F. W. Clarke; an example, weighing 625 grams, of the interesting brecciated meteoric stone which fell at St. Michel, Finland, July 12, 1910, acquired through exchange with the Foote Mineral Company, of Philadelphia, Pa.; and 18 fragments filling important gaps in the exhibition series, purchased from Mrs. Coonley Ward.

The installation and labeling of the exhibition collections received a proportionately large amount of attention. A work well advanced and soon to be completed was the provision of group labels for the cases in the section of applied geology, intended to broadly disig-

nate their contents, and so placed as to be conspicuous without marring the general effect. In course of preparation was another series of larger, supplementary labels, containing such descriptive scientific and industrial information as will lead to a fuller comprehension of the exhibits than can be obtained from the specimens themselves. These labels, which will be accompanied by maps showing the important producing centers for each of the industries represented, will be framed against the walls, each in close juxtaposition with the group to which it relates. In connection with the work of labeling, the exhibition cases were thoroughly refurbished, the specimens remounted and many of them reidentified and numbered. Minor changes and additions were also made, including the installation of a series of 14 wall panels, each 48 by 96 inches, intended primarily for displaying large slabs of building and ornamental stones. Two new wall cases were provided for exhibits of onyx marble and mineral waters, and four additional pedestals or bases were added in the hall of systematic geology. The Shepard collection of meteorites was overhauled, many of the small specimens were withdrawn from exhibition and the remainder arranged in a small Kensington case, thereby giving the collection greater individuality. Reading tables with reference books were placed in the various halls.

The reserve series was entirely rearranged in drawers, by kind and locality, and indexed by cards. This index, now consisting of about 20,000 cards, furnishes a classified record of all the material, with cross references, and an alphabetical list of the economically significant minerals so far as it has been possible to identify them without exhaustive chemical study.

The head curator of the department, Dr. George P. Merrill, under a grant from the National Academy of Sciences, continued his researches on the minor constituents of meteorites, of which a preliminary report was published. Further work in this direction is contemplated. Dr. Merrill also investigated and published on the Cullison, Perryville and Holbrook meteorites, and had in progress a series of simple tests designed to show the relative solubility of certain types of building materials in water acidulated with carbonic acid. Mr. Chester G. Gilbert and Dr. J. E. Pogue, assistant curators, respectively, of the divisions of geology and of mineralogy and petrology, made a detailed study of the copper ores of the Mount Lyell region, Tasmania, and undertook preliminary work looking toward an investigation of the origin of the chromite ores and of the nature of the copper in the so-called cupriferous pyrrhotite type of ores.

Mineralogy and petrology.—The most noteworthy acquisition of minerals consisted of 51 specimens received from the Geological Survey, including excellent specimens of ferberite, wolframite, scheelite, roscoelite, rutile, cassiterite, etc. Polished and unpolished speci-

mens of chrysoprase and rutile in quartz, pink tourmaline with crystals of lepidolite, a specimen of manganese from Panama, and six specimens of polished agate constituted a valuable gift from Mr. A. E. Heighway, of New York City, to whom the Museum was also indebted for the loan of 3 tourmaline crystals and 4 cut pieces of gem chrysoprase, the latter being exceptionally fine examples. Eleven specimens of gems, including a beautiful suite of polished black opals from New South Wales and jade from China, were obtained by purchase. All of the important accessions in petrology were transmitted by the Geological Survey and comprised the following, namely: One hundred and seventy-one specimens illustrating the geology and ore deposits of the Park City district, Utah, described in Professional Paper No. 77 of the Survey, by Mr. J. M. Boutwell; 125 specimens of rocks from the Northeastern and Republic mining districts of Washington, described in a bulletin of the Survey now in press, by Prof. Waldemar Lindgren and Mr. Howland Bancroft; and 451 rock and ore specimens from the mining districts of New Mexico, described in Professional Paper No. 68 of the Survey, by Prof. Lindgren, Mr. Louis C. Graton and Mr. Charles H. Gordon.

The reorganization of the collections in this division, following the same lines as in systematic and applied geology, was carried well toward completion. A number of very desirable additions were made to the exhibition series of minerals, and an extensive display of petrological material was installed. The work of rearranging and labeling the reserve series, including the cleaning of specimens, was sufficiently advanced to make these collections convenient of access, the specimens most needed for reference being provided for in and adjacent to the laboratories in the third story and the remainder, constituting the greater bulk of the material, being stored in cases in the attic. The segregation of the duplicate specimens was also in large part accomplished. The work of the year related very largely to the petrological collections, the minerals having previously received most attention. The former are of very considerable extent and include many type sets from the Geological Survey. The labeling of the exhibition series as now constituted was completed, and card catalogues covering the same, as also the reserve series, the type specimens and the duplicates, have been prepared.

The comprehensive monograph on the turquois, mentioned in the last report, was completed by Dr. Pogue, who also made a crystallographic study of cerussite.

Invertebrate paleontology.—Most prominent among the additions to the section of invertebrate paleontology were three transfers from the Geological Survey. The first of these comprised the type, figured and other important specimens, to the number of 1,952, described by Prof. Henry S. Williams in two monographs now in press by the

Survey, one of which deals with the Middle Devonian rocks, particularly of New York State, and the other and larger one with the early Devonian rocks of Maine, from which the Museum has hitherto had practically no material. The second consisted of 300 specimens from the Silurian rocks of the Eastport (Maine) quadrangle, including many types, which have been the subject of a paper by Prof. Williams published by the Museum, and of a larger work to be issued by the Survey, and which are of particular interest as the area had not previously been represented in the Museum, and also because of the relationship of the Maine Silurian faunas to those of Europe. The third accession, containing approximately 4,000 Ordovician fossils from the Central Basin of Tennessee, collected several years ago by Mr. E. O. Ulrich and Dr. R. S. Bassler, although including no type material is of much stratigraphic value.

Some 800 specimens of Paleozoic fossils from the Detroit River and other series of Canada, obtained by purchase from Rev. Thomas Nattress, of Amherstburg, Ontario, are especially important in that they illustrate the life of the uppermost Silurian and lowermost Devonian formations of the Detroit River region, from which the Museum has hitherto received no collections. The material derives additional significance from the fact that it can not be duplicated. About 1,000 specimens of lowest Silurian fossils were collected for the Museum in southwestern Ohio by Dr. Bassler, and about 500 specimens of Devonian and Lower Carboniferous mollusks from the Mississippi Valley were contributed by Mr. Frank Springer. Two collections of Tertiary fossils from various localities in the Canal Zone, collected for the Museum by Mr. D. F. MacDonald, the geologist of the Isthmian Canal Commission, were received during the year, one through that Commission, the other through the Costa Rica-Panama Boundary Arbitration Commission. Two fine slabs of fossil crinoids, presented by Mr. Thomas E. Williams, of Arvon, Va., through Prof. T. Nelson Dale, are of such exceptional character that they were placed on exhibition. An important series of 56 Mesozoic sponges, desired for display purposes, was obtained in exchange from the Peabody Museum of Yale University.

Much attention was paid to the improvement of the exhibition collections of invertebrate paleontology, which included the following new installations, namely, a geological column illustrating the arrangement of the rock formations of New Hampshire; a selection from the remarkably preserved fauna of the Middle Cambrian formations of British Columbia, collected and described by Secretary Walcott; a biological series of fossil sponges and graptolites; and a large slab of the crinoid *Scyphocrinus*. A card catalogue of the specimens on exhibition and the manuscript for about 1,200 labels were prepared. The acquisitions of the year were catalogued and

arranged; the card catalogue of all Paleozoic fossils was brought down to date; the large number of thin sections, many of which remained on the rough glass slides on which they were made, were transferred to fresh slides and properly covered and labeled; and the collection of Cambrian brachiopods described by Secretary Walcott in Monograph 51 of the Geological Survey was arranged and partially labeled. Some 50 boxes of material which had been in storage were opened and their contents appropriately assigned. Mr. Frank Springer gave generously of his time to the classification and arrangement of the large collection of fossil echinoderms, of which about one-third, filling over 300 standard drawers, had been revised by the end of the year. The Tertiary collections, under Dr. William H. Dall, were also in course of revision looking to the improvement of their installation.

Dr. Charles D. Walcott, Secretary of the Smithsonian Institution, continued his studies of the Lower and Middle Cambrian faunas of the Canadian Rockies, paying particular attention to the finely preserved material from the Burgess shale at Field, British Columbia. He finished and published his researches on the Upper Cambrian fauna of New York, and had well advanced a monograph on the trilobite genus *Dicellosephalus*. Dr. R. S. Bassler, curator of the division of paleontology, conducted researches in preparation of a monograph on the bryozoa of the American Tertiary, which is expected to occupy him for at least another year. He completed an article based on a new exhibit of fossil crinoids and prepared the faunal and illustration sheets for the Cincinnati Folio of the Geological Survey. Mr. Frank Springer, associate in paleontology, carried well toward completion his monograph on the *Crinoidea flexibilia*, the numerous quarto plates for which were finished, and had nearly ready for publication a monograph on the crinoid genus *Scyphocrinus*. He also had in preparation an article on the peculiar group of Cremacrinidae. Dr. William H. Dall, associate curator in charge of the Cenozoic collection, completed a study of the Oligocene deposits of Tampa, Fla., and had nearly finished a description of the new brackish water fauna of the Satilla River of Georgia, and of Alexander, Tex. He was also engaged in working up the Tertiary fauna of western America and devoted considerable attention to that of the Panama Canal Zone in collaboration with the geologist of the Isthmian Canal Commission.

Vertebrate paleontology.—Through the addition of over 400 specimens, representing many new genera and species, to the already important collection of rare early Tertiary (Fort Union) mammals from Sweet Grass County, Mont., this section is now in possession of a sufficient variety of material to make possible an intelligent study of the fauna of that geological horizon. In Pleistocene cave deposits near Cumberland, Md., Mr. J. W. Gidley collected over 100

specimens, representing 22 recognizable genera and a slightly greater number of species, several of which are new to science. Mr. Copley Amory, jr., of Columbia University, while serving as a collaborator of the Museum, obtained some 30 fragmentary fossil mammal bones from the Old Crow River, Yukon Territory, about 100 miles north of the Arctic Circle, one of which is a phalanx or toe bone of a species of large camel, the first evidence of the former occurrence of this animal north of the United States. A nearly complete skull of a fossil horse, which had been described by Dr. O. P. Hay, and a tooth of a mastodon were received as a loan from Mr. C. P. Snyder, of Tofty, Alaska. A miscellaneous collection of fossil mammalian remains from the Miocene deposits of the shores of Chesapeake Bay in the vicinity of Chesapeake Beach, Md., was presented by Mr. William Palmer and Mr. A. C. Weed, of the Museum staff.

By the employment of temporary help an exceptional amount of preparatory work was accomplished, probably more than in any previous year. Attention was mainly directed to certain miscellaneous material belonging to the Marsh collection, consisting of fragmentary vertebrate remains still embedded in the matrix as received from the field a number of years ago. This material fills several hundred boxes and trays, of which the contents of 46 boxes and 150 trays were cleaned up and the bones assembled for each individual specimen represented. Several new and unexpected finds resulted, including many complete ribs of *Teleoceras*, a number of skulls and jaws of the large creodont *Merycochærus* and of rare carnivores from the John Day and Miocene beds of Nebraska, and a new genus and species of dinosaur from the Lance formation of Wyoming which has been described by Mr. Gilmore under the name *Thescelosaurus neglectus*. The last mentioned is represented by a nearly complete skeleton, which seems to have been entirely overlooked by Prof. O. C. Marsh, under whose direction the material was collected. Much was also done toward cleaning the specimens from the cave in Cumberland, Md., received during the year. Other work turned out by the preparators comprised a free mount of the small two-horned rhinoceros, *Diceratherium*, a relief mount of the dinosaur *Stegosaurus stenops*, mounts of a large hind limb of *Brontosaurus* and of a considerable number of small batrachians and reptiles, and remounts of a skeleton of *Hesperornis regalis* and of a cast of *Pareiasaurus bairdi*. The type specimen of *Hoplitosaurus marshi* was cleaned, good progress was made on a free mount of a skeleton of *Stegosaurus*, of which genus some 100 separate bones of other individuals were prepared for the reserve series, and work on a nearly complete tail of a large bipedal dinosaur, *Trachodon*, was well under way.

Mr. Charles W. Gilmore, assistant curator of fossil reptiles, described the new dinosaur from the Lance formation of Wyoming

above referred to, and continued work on his monograph of the armored dinosaurs represented in the Museum collection, with special reference to the osteology of *Stegosaurus*, which he expects to finish during the current year. Mr. James W. Gidley, assistant curator of fossil mammals, completed a preliminary investigation of the recently discovered cave deposits at Cumberland, Md., and continued his study of the Fort Union mammals.

Paleobotany.—The principal addition to the section of paleobotany, received from the Geological Survey, consisted of 271 types and figured specimens and about 1,500 other specimens of Cretaceous and Tertiary plants from the Raton-Mesa region of Colorado and New Mexico, which had served as the basis of a monograph by Dr. F. H. Knowlton, now in press by the Survey.

The introduction of two new wall cases in the exhibition hall permitted a partial readjustment of the collections there. The reserve series of the section was rearranged and labeled, largely through the services of Mr. T. E. Williard, of the Geological Survey, under the supervision of Dr. Knowlton. The arrangement is stratigraphical and by locality, and is covered by a card catalogue. Dr. Knowlton, who is custodian of mesozoic plants, continued his studies on the Museum collection of fossil plants from Florissant, Colo.

Examination of specimens.—The department of geology, more than either of the others, is called upon to examine and report on specimens sent to the Museum for determination from all parts of the country. During last year 540 separate lots were received, of which 494 lots consisted of rocks, ores, and minerals, forwarded mainly in the belief that they would be found to indicate mineral deposits of value. While the Museum is not equipped for conducting elaborate analyses, simple determinative methods are sufficiently conclusive in most cases, and such information as could readily be given was furnished to the applicants.

Explorations.—The only geological field work carried on directly by the Museum consisted of the examination of a small cave in Devonian limestone exposed in a railroad cut near Cumberland, Md., which was found to contain a large number and great variety of fossil vertebrate remains of Pleistocene age. The locality was visited by Mr. J. W. Gidley in October, 1912, and again in May and June, 1913, without, however, completing the investigation. In the material brought to the Museum over 30 distinct species of mammals have already been distinguished, the most of which represent forms now extinct or living in remote regions. Among them are the jaws of a new species of dog and the nearly complete skull of an extinct antelope closely related to the eland of Africa. While the specimens are all fragmentary, some of them are sufficiently well preserved to be used for exhibition purposes.

Dr. Charles D. Walcott, Secretary of the Institution, continued his geological investigations in the Canadian Rockies, and in the Mount Robson region of Alberta discovered a new and interesting Cambrian fauna. His season's work resulted in a very large and rich collection of Cambrian fossils. Dr. R. S. Bassler, on detail for several weeks with the United States and Maryland geological surveys, obtained important series of fossils for the Museum in Ohio and Maryland, and Mr. Copley Amory, jr., serving as a collaborator of the Museum and at his own expense, secured interesting vertebrate remains in Alaska, as before described.

Under the direction and at the expense of Mr. Frank Springer, associate in paleontology, Mr. Frederick Braun made prolonged trips through the Appalachian Valley from Virginia to Tennessee in search of crinoids and cystids in the Ordovician limestone. Later, in the region of Cape Girardeau, Mo., Mr. Braun secured from Lower Devonian rocks some remarkable examples of the bulbous rooted crinoid, *Scyphocrinus*, which show that the so-called *Camarocrinus* is only the root of this form. Four large slabs containing specimens illustrating this discovery were sent to the Museum.

THE ARTS AND INDUSTRIES.

Somewhat over a year ago, as explained in the last report, active steps were taken toward rehabilitating those branches of the department of the arts and industries which, established in 1880, have for a considerable period been in a disorganized condition owing to the necessity of turning over to other subjects the space they had been occupying, and thereby forcing their collections into storage. By the transfer of the natural history departments to the new building accommodations have been secured for renewing the work in these neglected branches, which will be pressed as rapidly as the means permit. The present plans call for the development and illustration of the several subjects on a broader and more practical basis than had originally been contemplated, so that, aside from the primary purpose of education, the collections will serve as distinct aids to the great industries of the United States in demonstrating their importance in the life of our people and in recording the economic changes taking place in each of them. The progress made up to the close of last year, as evidenced in the exhibition halls, was sufficiently great to very materially attract public notice.

In extending its influence over the industrial interests of the country with a view to their promotion and their regulation, the Federal Government has established a number of bureaus for conducting investigations and experiments, and even for rendering direct assistance which is being done in many ways. With this important

work the Museum does not come in competition. Its object in this connection as with the natural history branches, and as defined by law, is to supplement the activities of the bureaus and to cooperate in furthering their purposes. The Museum is the depository for the material things collected by these bureaus or desirable to assemble in their behalf and in behalf directly of the industries themselves, illustrating the extent and variety of raw materials used by the latter, their methods, their products and their history. As to the utility of the Museum's part in this great field, almost daily instances can be cited, despite the present very incompleteness of the collections, and with the rounding out of its organization and the building up of its collections, the department cannot fail to do for this country what corresponding institutions have accomplished for the industries of England, France and Germany.

Without disturbing at present the relations of the several art-industrial branches which have continued to be administered under the Museum organization into three departments, established in 1897, and also without fully maturing plans for a thoroughly comprehensive department of the arts and industries, attention has for the moment been mainly directed to two subjects which are of paramount importance and which, next to those industries concerned with the production of food, occupy the foremost place among the industries of this country, namely, textiles and mineral technology. In connection with the former subject, however, certain other products of animal and vegetable origin are likewise receiving consideration.

Owing to the diversity of conditions underlying the illustration of the different industries, a uniform policy applicable to all branches is quite impossible. With the textiles and certain other subjects in which this method can be carried out, it is proposed, as in natural history, to divide the collections into two main groups, an exhibition series and a study or reference series. As planned for the division of textiles, the exhibition series, aside from a historical display, setting forth important stages in its development, will be mainly illustrative of the latest processes and products of the industry, the materials being selected and arranged and labeled to furnish an impressive object lesson for the public. The reference series, maintained for the benefit of manufacturers and technical students, will, on the other hand, consist of a large, comprehensive and constantly increasing collection of authentic and standardized raw and manufactured materials, which, not requiring to be displayed, may be provided for in a compact arrangement, though demanding an elaborate classification, provisions for easy reference, and a system of labeling and cataloguing that will tend to its full and ready utilization. In mineral technology the conditions are not dissimilar, though its field has for some time

been partly covered by the collections of applied geology and mineralogy organized as branches of the department of geology. The most important work to be immediately undertaken relates to the processes of mining and manufacture.

The division of mineral technology, which had been nominally recognized since 1904, with Dr. Charles D. Walcott as honorary curator, was last year given a definite status with a paid curatorship. Mr. Chester G. Gilbert, previously assistant curator of systematic and applied geology, was appointed to this position but as the change did not take place until in June, there is essentially no progress to report in this connection. The extensive collections received from exhibitors at the St. Louis Exposition of 1904, consisting of various models and of many examples of crude and finished mining products, will first be gone over, and as much of the material as is of permanent value will be put in shape as rapidly as possible. Attention will also at once be given to the formulation of plans covering at least the more important features to be illustrated in the public halls, in order that steps may be taken without delay to acquire the necessary additional exhibits. The work of preparing and installing the models, some of which are large and complicated, involves considerable thought and labor, and must, therefore, proceed somewhat slowly, but the several rooms will be successively opened to the public as they are placed in presentable condition. The exhibition as a whole promises to be especially notable and quite in advance of anything of the kind heretofore attempted.

The reestablishment of the division of textiles was effected somewhat over a year earlier, or on March 1, 1912, with the appointment as curator of Mr. Frederick L. Lewton, who was also given charge of such other economic plant and animal products as are not otherwise specifically provided for. The last four months of the fiscal year 1912 were mainly occupied in unpacking and overhauling the collections formerly exhibited, but long in storage, a work which continued into the early part of last year. Much of the material was found to have seriously deteriorated, though the greater part remained in condition to be utilized, and, having been mostly assembled over 25 years ago, it is especially valuable for its bearing on the history and development of the subjects represented. Notwithstanding the late period of the year when this work was started, a very considerable exhibition of a provisional nature, based entirely on these collections, had also been installed by the end of June, 1912. In 37 cases on the gallery of the south hall in the older building were arranged a series of the raw materials and of the successive stages of manufacture of all the important textile and cordage fibers, comprising silk, cotton and other seed hairs, flax, hemp, jute and other bast fibers, palm, grass, leaf and other structural fibers, wools and hairs, felt, knit goods,

carpets, cordage, and machine-made laces. Many samples of handsome Japanese figured silks were also shown. Placed tentatively in the west south range were exhibits of raw silks, raffia, and pine needle fiber, manufactured ramie, ingrain carpets, and paper fabrics. Of animal products, 15 cases were filled with specimens illustrating the utilization and manufacture of ivory, bone, horn, tortoise-shell, whalebone, feathers, hair, bristles, gut, sponges, shells, and leather. Of the collection of foods no definite disposition had been made except to fumigate and further safeguard for reference the very valuable series of food materials of the American Indians, which were collected during important ethnological investigations and which it would now be impossible to replace.

During last year marked progress was made in the acquisition of textile material, in the extension of the exhibition collections, and in the general work of the division. All of the producers who were approached, recognizing the importance of the scheme proposed in its bearing on this varied and extensive industry which comes into such intimate and personal relation with the people, gave it their unqualified approval, with such cordial assurance of support as to insure the realization of the Museum's plans in this direction. The exhibitions of the division will center in the south hall of the older building, where the installations of the year were mainly placed. Thence they will extend into the east-south range and the southeast court, and occupy such of the adjacent galleries as they may require.

The total number of accessions during the year in the line of textiles was 33, of which the more important, all generously presented except as otherwise noted, were as follows: A collection of silk fabrics, etc., from Messrs. Cheney Brothers, of South Manchester, Conn., consists of piece-dyed, yarn-dyed, printed, jacquard, and pile goods, samples of raw and thrown silk, and specimens illustrating processes in the manufacture of spun silk yarn. The series showing the utilization of silk wastes in the manufacture of spun silk yarns is of special interest as this branch of the industry is but little known by the general public. The samples of dress silks comprise the finest qualities of satins, foulards, taffetas, ottomans, bengalines, chiffons, voiles, crêpes, etc., while the drapery silks include brochés, armures, satin damasks, fine reproductions of antique brocades, reproductions of Venetian velvets, etc. The National Silk Dyeing Company, of Paterson, N. J., contributed a collection of silk fabrics and yarns which has been arranged to show the application of color to silk and illustrate skein and piece dyeing and surface and warp printing of silks. It includes skeins of thrown silk arranged in a carefully graduated series of 150 shades. The Bureau of Entomology of the Department of Agriculture deposited a series of silk cocoons and raw silk, and a few models of appliances used in rearing silk-

worms, besides a papier-mâché model of a silkworm 24 inches long, which may be taken apart for studying the internal anatomy. Samples of the principal varieties of commercial raw silk were received from Messrs. A. P. Villa & Brothers, of New York City.

For a large number of 3-yard samples of plain and fancy cotton goods, comprising percales, shirtings, organdies, challies, crêpes and flannels, in dress goods; and silkelines, cretonnes, drillings, scrim, and etamines, in drapery and upholstery materials, the Museum is indebted to the Pacific Mills, of Lawrence, Mass., through Messrs. Lawrence & Co., of Boston; and from the same source were also secured 89 large folio albums containing samples of American and foreign cotton, silk and woolen goods, covering the period between 1878 and 1910, which will form the basis for an extensive reference collection arranged by periods. Specimens of velveteen and corduroy, illustrating the processes of manufacture, with which most persons are unfamiliar, were presented by the Merrimack Manufacturing Co., of Lowell, Mass., likewise through Messrs. Lawrence & Co. A set of official grades of white American cotton now used in all cotton exchanges for grading American upland cotton, and a large collection of carefully identified raw plant fibers, which will be of great value in the preparation of microscopic mounts of authentic material, were received by transfer from the Bureau of Plant Industry of the Department of Agriculture. Samples of rough and harsh Peruvian and Chinese cotton imported into the United States for mixing with the wool in the production of flannels, underwear and hosiery, were contributed by the Wonalancet Co., of Nashua, N. H., and specimens of cotton dress linings, by Messrs. A. G. Hyde & Sons, of New York.

The American Woolen Co., of Boston, Mass., presented a fine series of specimens and a set of 71 photographs illustrating the processes in the manufacture of worsted yarn according to both the French and English systems, and also samples of woolen and worsted fabrics, the latter having been prepared in the National and Providence Worsted Mills, at Providence, R. I., under the direction of Mr. G. B. Bartlett, assistant treasurer. From Mr. Augustus E. Ingram, American consul at Bradford, England, was received a series of specimens and photographs mounted on ten large cards, illustrating the manufacturing processes for fine wools, colored yarn-spinning, blending of colored tops and the finishing processes for worsted goods, an instructive exhibit prepared by Prof. A. M. Barker of the Bradford Technical College with the consent of the Education Committee of the city of Bradford.

Examples of curtain fringes and upholstery trimmings, contributed by the William H. Horstmann Company, of Philadelphia, Pa., elucidate the great transformation in the types of household upholstery trimmings which has taken place during the last decade, in

which the heavy silk tassels and fringes have given place to sanitary decorations in the form of light cotton trimmings. The same company also presented 5 pairs of heavy silk curtain loops, imported by the founder of the firm about 40 years ago, being authentic specimens representing different periods of design, from the Gothic to the Napoleonic period.

A series of specimens showing the manufacture of linen thread, including rough and dressed samples of Dutch, Flemish, Irish and Courtri flax, and yarns and thread in hanks and on spools, was donated by the Linen Thread Co., of New York City; and another series covering the manufacture of ramie thread and yarn, from the crude fiber to the finished material, and including weaving, knitting and novelty threads, was received from the Superior Thread & Yarn Co., of New York City.

A very instructive exhibit, including both specimens and photographs, demonstrating the manufacture of Wilton and Brussels rugs and carpets, from Mr. M. J. Whittall, of Worcester, Mass., has attracted much attention. It contains a partly finished piece of Brussels and Wilton carpet, showing in place the wires by means of which the looped or velvet surfaces are obtained. Samples of millinery braids, including many beautiful patterns and illustrating the variety of materials from which they are now made, were contributed by Messrs. Isler & Guye, of New York, who also furnished a collection of the principal varieties of woven or body hats now imported into this country.

A collection of Philippine mats, baskets, hats, fabrics and other useful articles, together with the raw, fibrous materials from which they are made, and accompanied by photographs and herbarium specimens of the plants used, was obtained by purchase from the Bureau of Education, at Manila, P. I. It contains fine examples of the famous Romblon and Tanay mats and Buntal or Lucban hats. The chief value of the collection consists in the correct botanical identification of the materials employed in making the various objects, and these authentic specimens will be of much value in the determination of future acquisitions.

A 600-hook, single lift, Jacquard machine, made by Crompton & Knowles, was presented by the Sauquoit Silk Manufacturing Company, of Philadelphia, Pa., and will be used to demonstrate the principles and operation of this important textile device. A self-threading shuttle of the latest model and complying with the recent Massachusetts sanitary shuttle law was the gift of the Draper Company, of Hopedale, Mass., which also sent an old loom reed, such as was in use 60 or 70 years ago. In this the dents are made of cane or split bamboo instead of wire as at present. Specimens of pitch-band reeds for use in cotton, silk, and wool looms, and of all-metal

reeds for fine silk and ribbon looms, were received from the Knowles Loom Reed Works, of New Bedford, Mass.; and an unusual hand spinning wheel, brought from Belgium by her grandfather about 200 years ago, was deposited by Mrs. Chas. W. McFee, of Washington. The Arabol Manufacturing Company, of New York, contributed a comprehensive exhibit of cloth and yarn-finishing materials, comprising gums, glues, starches, soaps, oils, sizes, and other stiffening or softening compounds.

Besides the foregoing there were several important additions to the collection of vegetable products other than textiles. The most noteworthy related to the invention and application of vulcanized rubber by the late Charles Goodyear, and was deposited by his grandson, Mr. Nelson Goodyear, of New York. The collection includes life-size portraits of Charles Goodyear, Charles Goodyear, jr., and Daniel Webster, done in oils on panels of hard rubber by G. P. A. Healy in 1855; a book of manuscript notes and sketches pertaining to the application of vulcanized rubber, by Charles Goodyear; 12 medals of gold, silver, and bronze, awarded the inventor; a chatelaine watch and chain, mounted in hard rubber and inlaid with jewels; and other pieces of jewelry. The chatelaine, a gift of Charles Goodyear to his wife, is a replica of one presented by him to Empress Eugénie of France. Specimens of gutta percha, rubber and rubber-tree products, and of cocoanuts and cocoanut products were contributed by the Forestry Department of the Federated Malay States, through Mr. Leonard Wray, Commissioner to the Third International Rubber and Allied Trades Exposition at New York; and a trunk of the Para rubber tree (*Hevea brasiliensis*), illustrating the herringbone method of tapping, was presented by the Ceylon Commissioners to the same exposition, on behalf of the Royal Botanic Gardens, at Peradeniya, Ceylon. A collection of small samples of commercial grades of crude rubber was received from the New York Commercial Company.

The Treasury Department, through the Supervising Tea Examiner, furnished samples of the official tea standards which are used in testing the quality of every pound of tea imported into the United States. There are twelve standards for the current year, representing all the main types of tea received from abroad. The Corn Products Refining Company, of New York, contributed a series of specimens illustrating the starches, sugars, oil, and other products obtained from corn.

The curator of the division, Mr. Frederick L. Lewton, made several visits to the textile centers of the country for the purpose of getting in touch with the textile manufacturers and of studying the textile industries at first hand, as well as of soliciting material for the Museum, and most of the accessions of the year resulted

from these trips. A study of the foreign and indigenous cottons, begun by him before his appointment to the Museum, resulted in the publication during the year of three papers, dealing, respectively, with the cottons of the Hopi Indians in Arizona and the Indians of Rubelzul in eastern Guatemala, and with a new genus of Hawaiian trees which had formerly been considered as congeneric with the cottons. A systematic investigation of the cottons of Africa and the Indian Ocean region has been commenced with the object of determining the number of species and varieties occurring in those areas and the proper identification of the types of staples coming on the market. An annotated glossary of textile fabrics, which it is hoped can be illustrated by actual specimens, has also been started, and descriptions of new fabrics appearing on the market and mentioned in the trade papers are being recorded.

DISTRIBUTION AND EXCHANGE OF SPECIMENS.

The distribution of duplicate material to schools and colleges for teaching purposes comprised 48 regular sets, of which 2 were of rocks, 26 of ores and minerals and 20 of fossil invertebrates, and the same number of sets specially prepared, consisting mainly of marine invertebrates, insects, fishes, rocks, ores, minerals, and fossils, besides about 1,500 pounds of material suitable for blowpipe and assay analysis. The total number of specimens used for this purpose was about 7,300. Over 21,000 duplicates were also disposed of in exchange transactions, about 84 per cent of this number being plants. Two hundred and six lots of specimens were sent to specialists, both at home and abroad, for study and classification, mainly on behalf of the Museum, but also to some extent in the interest of research work for other institutions. They comprised 6,437 animals, 4,542 plants, and 2,048 rocks, minerals and fossils, a total of 13,027 specimens, besides 742 packages of unassorted marine invertebrates.

The establishments abroad with which exchange relations were had during the year were as follows: The British Museum of Natural History, London, the Royal Botanic Gardens, Kew, the University Botanic Garden, Cambridge, and Alexandra Park, Manchester, England; the Muséum d'Histoire Naturelle, and the Herbarium of Prince Roland Bonaparte, Paris, France; the Königl. Botanischer Garten und Königl. Botanisches Museum, Dahlem, Steglitz bei Berlin, the Botanischer Garten, Bremen, and the Museum für Völkerkunde, Leipzig, Germany; the College of Mines, Leoben, Styria, and the K. K. Naturhistorisches Hofmuseum, Vienna, Austria; the Hungarian National Museum, Botanical Section, Budapest, Hungary; the Muséum d'Histoire Naturelle, Fribourg, Switzerland; the Rijks-

Herbarium, Leiden, Holland; the Jardin Botanique de l'Etat, Brussels, Belgium; the Universitets Botaniske Museum and Zoologiske Museum, Copenhagen, Denmark; the Riksmuseets, Botaniska Afdelning, Stockholm, and the Kungl. Universitets Botaniska Museum, Upsala, Sweden; the Kaiserl. Botanischer Garten, and Musée d'Anthropologie et d'Ethnographie de Pierre le Grand, St. Petersburg, Russia; the Durban Museum, Durban, Union of South Africa; the Australian Museum and Australian National Herbarium, Sydney, New South Wales; the Western Australian Museum and Art Gallery, Perth, West Australia; the Geological Survey of India, Calcutta, and Royal Botanic Garden, Sibpur, India; the Agricultural College, Tokyo, Japan; the Museo Nacional, San José, Costa Rica; the Department van den Landbouw, Paramaribo, Surinam; the Museum Goeldi, Pará, Brazil; the Colegio de San Ignacio, Medellin, Colombia; and the Canadian National Herbarium, Ottawa, Canada.

NATIONAL GALLERY OF ART.

The permanent acquisitions during the year consisted of 11 paintings, of which 9 are in oil and 2 in pastel. Seven of these were additions by Mr. William T. Evans, of New York, to the collection of the works of contemporary American painters, of which the initial gift, comprising 36 examples, was made in the early part of 1907. With consistent faith in the future of the Gallery and encouraged by the public appreciation of the part he was taking in furtherance of this belated effort to realize one of the most important conditions imposed by the Smithsonian Act of 1846, Mr. Evans has generously continued year by year to materially augment his most desirable donation until at the close of last year it numbered 144 paintings, in which 103 artists of this country, some deceased, but the great majority still living, were represented. For the period covered it is the most comprehensive and the most important collection of American works that has been assembled in any of our museums. The contributions of Mr. Evans during last year were as follows:

Frank De Haven. Castle Creek Canyon, South Dakota.

Edwin Willard Deming. The Mourning Brave.

Robert David Gauley. The Fur Muff.

Charles Paul Gruppe. The Meadow Brook.

Walter Shirlaw. Water Lilies.

Otto Walter Beck. Christ before Pilate, and Suffer the Little Children to Come unto Me, both in pastel.

The other 4 paintings were comprised in 2 donations and 2 bequests, the former consisting of Twilight after Rain, by Norwood Hodge MacGilvary, presented by Mr. Frederic Fairchild Sherman, of New York, in memory of his wife, Eloise Lee Sherman; and The Wreck, by Harrington Fitzgerald, of Philadelphia, contributed by the

artist. The first of the bequests, from the late Mrs. Elizabeth C. Hobson, of Washington, was a painting executed by Hamdy Bey in Constantinople in 1884 expressly for Mrs. Hobson, and entitled Tomb of "Mahomet the Gentleman" at Broussa; the other was a portrait of Col. Albert G. Brackett, U. S. Army, by G. P. A. Healy, devised to the Gallery by Mrs. Brackett, also formerly a resident of Washington.

The Lewis collection of Washington relics, purchased by the Government in 1878, contained an oil painting of General Washington by an undetermined artist, which was retained at the Department of the Interior when the Lewis collection was transferred to the National Museum in 1883. This portrait, more recently turned over to the Smithsonian Institution, was placed in the Gallery during last year, as was also a marble allegorical statue entitled *Il Penseroso*, the work of Joseph Mozier (1812-1870), which had previously been exhibited in the older building.

Mr. Charles L. Freer announces important additions from the Far East to the rich collection of American and oriental art of which the people of the Nation were made the beneficiaries several years ago. Under the terms of the gift, this great and generous donation still remains in the custody of Mr. Freer, in Detroit, for further study and perfection, and to enable him to work out appropriate methods for installing its varied treasures as a basis for planning the building in which it will finally be housed in Washington.

The loans received by the Gallery, consisting mainly of oil paintings, were as follows: From Mrs. Abercrombie-Miller: *Alpine Landscape*, by Hillner, and *Sheep*, by Eugène Verboeckhoven. From Dr. Thomas M. Chatard: *Portrait of Henrietta Maria*, by Janssens, *Portrait of Mrs. Rous*, by Sir Peter Lely, and *Portrait of Mrs. Nicholas Bosley of Hayfields, Md.*, by Thomas Sully. From Rev. F. Ward Denys: *Madonna and Child*, by Perugino, and *Saint Michael*, by Guido Reni. From Hon. George Peabody Wetmore: *Military Review*, a water color, by Edouard Detaille, and *Versailles*, by Constant Wauters. From Mrs. Frances E. Musgrave: *Death Preferred*, by J. Van Lierus. From Mr. Benson B. Moore: *Portrait of Rembrandt*, attributed to himself. From Mr. J. Carroll Beckwith: *The Emperor*, by Mr. Beckwith. From Mr. and Mrs. Charles Francis Adams: Two portraits of Mr. Adams, by Robert Vonnoh, one full length, the other a bust. From Mr. Walter R. Tuckerman: *Portrait of Joseph Tuckerman, D. D.*, by Gilbert Stuart. From Mrs. Henry Wells: A copy of Murillo's painting *The Beggars*. From Mrs. Mary Peoli Maginn: *Cupid Caged and Love Conquers*, by John J. Peoli. From Mrs. Florence A. Ebbs: Two pieces of marble sculpture, namely, *Cordelia*, attributed to Harriet Hosmer, and *Esmeralda*, by Romanelli.

The screen inclosure in the north wing of the new building, constructed for the paintings of the Gallery and furnishing about 950 running feet of interior wall surface, has been fully occupied at all times, and to some extent the outer surfaces at the ends of the inclosure have also been utilized. All permanent acquisitions have, as usual, been photographed and glazed as received, only 4 of the paintings in the collection, which are of too large a size to permit of this means of protection, being without glass at this time.

The vacancy in the Smithsonian Advisory Committee on the National Gallery of Art, caused by the death of Francis Davis Millet, its chairman, one of the victims of the *Titanic* disaster in the spring of 1912, was filled by the appointment of Mr. C. Y. Turner, director of the Maryland Institute Schools of Art and Design in Baltimore. There have been no other changes in the personnel of this committee since its organization in 1908, and its membership is as follows: Mr. C. Y. Turner, Chairman, Mr. Frederick Crowninshield, Mr. Edwin H. Blashfield, Mr. Herbert Adams, and Mr. William H. Holmes, Secretary. The Gallery was represented at the annual convention of the American Federation of Arts, held in Washington on May 15 and 16, 1913, by its curator, Mr. Holmes.

Below is given a list of the paintings and sculpture which were on exhibition in connection with the Gallery at the close of last year, June 30, 1913. It includes both the permanent possessions of the Gallery and the loans, but none of the many works of art assigned to various other branches of the Museum, such as graphic arts, history, archeology, ethnology, textiles and ceramics.

BEQUEST OF HARRIET LANE JOHNSTON.¹

Sir William Beechey (1753-1839).

Portrait of Miss Murray.

J. Henry Brown (1818—).

Miniature of President Buchanan.

Miniature of Harriet Lane Johnston. (Lent by Miss May S. Kennedy.)

John Constable (1776-1837).

The Valley Farm.

Henry Dexter (1806-1876).

Marble bust of President Buchanan.

Jacob Eicholtz (1776-1842).

Portrait of President Buchanan, at about 40 years of age.

Sir John Watson Gordon (1798-1864).

Portrait of the Prince of Wales (King Edward VII) in 1862.

John Hoppner (1758-1810).

Portrait of Mrs. Abington.

¹ Received in 1906.

Cornelis Janssens (Van Keulen) (1590-1664).

Portrait of Madam Tulp.

Sir Thomas Lawrence (1769-1830).

Portrait of Lady Essex as Juliet.

Bernardino Luini (1460-1535).

Madonna and Child.

Frank B. Mayer (1827-1899).

Independence.

Harper Pennington.

Portrait of James Buchanan Johnston at the age of 14 years.

Francis Pourbus the younger (1569-1622).

Portrait of Josepha Boegart.

Sir Joshua Reynolds (1723-1792).

Portrait of Mrs. Hammond.

William Henry Rinehart (1825-1874).

Marble bust of Henry Elliot Johnston.

Marble bust of Harriet Lane Johnston. (Lent by Miss May S. Kennedy.)

Marble Cupid. Henry E. Johnston, jr., at the age of 2 years, as Cupid stringing his bow.

George Romney (1734-1802).

Portrait of Miss Kirkpatrick.

Thomas Prichard Rossiter (1817-1871).

The Prince of Wales (King Edward VII) and President Buchanan, with the Prince's suite, members of the President's Cabinet and other guests, at the tomb of Washington, Mount Vernon, 1860.

Edwin Lord Weeks (1849-1903).

A Street Scene in the East.

Artist unknown. (After Correggio.)

Madonna and Child.

Comprised in the Harriet Lane Johnston bequest are also several interesting miscellaneous articles which are exhibited in connection with the paintings and sculptures.

PAINTINGS BY CONTEMPORARY AMERICAN ARTISTS PRESENTED BY
MR. WILLIAM T. EVANS, 1907 TO 1913.

John White Alexander.

A Toiler.

Hugo Ballin.

The Sibylla Europa—Prophesied the Massacre of the Innocents.
The Lesson.

John Wesley Beatty.

Plymouth Hills.

Otto Walter Beck.

Christ before Pilate. (Pastel.)

Suffer the Little Children to Come unto Me. (Pastel.)

James Carroll Beckwith.

The Blacksmith.

Frank Alfred Bicknell.

October Morning.

Ralph Albert Blakelock.

At Nature's Mirror.

The Canoe Builders.

Moonrise.

Sunset, Navarro Ridge, California Coast.

Robert Frederick Blum (1857-1903).

Canal in Venice, San Trovaso Quarter.

George H. Bogert.

Sea and Rain.

George Elmer Browne.

The Wain Team.

George de Forest Brush.

The Moose Chase.

William Gedney Bunce.

Sunset, San Giorgio, Venice.

Emil Carlsen.

The South Strand.

Mary Cassatt.

Caresse Infantine.

William Merritt Chase.

Shinnecock Hills.

Frederick Stuart Church.

The Black Orchid.

Circe.

William Baxter Palmer Closson.

Nymph and Water Babies at Play.

William Anderson Coffin.

September.

J. Foxcroft Cole (1837-1892).

Late Afternoon near Providence.

Charlotte Buell Coman.

Early Summer.

Eanger Irving Couse.

Elk-Foot (Pueblo Tribe).

Kenyon Cox.

Plenty.

Louise Cox.

May Flowers.

- Bruce Crane.
Autumn.
- Charles Courtney Curran.
The Perfume of Roses.
- Leon Dabo.
Evening on the Hudson.
- Elliott Daingerfield.
The Child of Mary.
- Charles Harold Davis.
Summer.
- Henry Golden Dearth.
An Old Church at Montreuil.
- Frank De Haven.
Castle Creek Canyon, South Dakota.
- Edwin Willard Deming.
The Mourning Brave.
- William Rowell Derrick.
The Plaza.
- Louis Paul Dessar.
Return to the Fold.
The Watering Place.
- Charles Melville Dewey.
The Harvest Moon.
The Close of Day.
- Thomas Wilmer Dewing.
Summer.
- Paul Dougherty.
Sun and Storm.
- Charles Warren Eaton.
Gathering Mists.
- Wyatt Eaton (1849-1896).
Ariadne.
- Benjamin R. Fitz (1855-1891).
A Pool in the Forest.
- James William Fosdick.
Adoration of Saint Joan of Arc. (Fire etching on wood.)
- Ben Foster.
Birch-Clad Hills.
- George Fuller (1822-1884).
Ideal Head.
Portrait of Henry B. Fuller, 1873.
- Henry Brown Fuller.
Illusions.
- Robert David Gauley.
The Fur Muff.

- Edward Gay.
The Hillside.
- Lillian Matilde Genth.
Adagio.
Depths of the Woods.
- R. Swain Gifford (1840-1905).
Near the Ocean.
- Sanford R. Gifford (1823-1880).
The Villa Malta.
- Albert Lorey Groll.
Laguna—New Mexico.
- Charles Paul Gruppe.
The Meadow Brook.
- Childe Hassam.
Spring, Navesink Highlands.
The Georgian Chair.
- Arthur Turnbull Hill.
After a Storm, Amagansett.
- Winslow Homer (1836-1910).
High Cliff, Coast of Maine.
The Visit of the Mistress.
- William Henry Howe.
My Day at Home.
- Alfred Cornelius Howland (1838-1909).
Friendly Neighbors.
- William Morris Hunt (1824-1879).
The Spouting Whale.
- George Inness (1825-1894).
Niagara.
Sundown.
Georgia Pines.
September Afternoon.
- Alphonse Jongsers.
Portrait of William T. Evans.
- William Sergeant Kendall.
An Interlude.
- John La Farge (1835-1910).
Visit of Nicodemus to Christ.
- William Langson Lathrop.
The Three Trees.
- Ernest Lawson.
An Abandoned Farm.
- Louis Loeb (1866-1909).
The Siren.

- Will Hicok Low.
Christmas Morn.
Albert Pike Lucas.
October Breezes.
William Edgar Marshall (1836-1906).
Portrait of Henry Wadsworth Longfellow.
Portrait of the Artist, age 23.
Homer D. Martin (1836-1897).
Lower Ausable Pond.
Evening on the Seine.
The Iron Mine, Port Henry, New York.
Willard Leroy Metcalf.
A Family of Birches.
Robert C. Minor (1840-1904).
A Hillside Pasture.
Great Silas at Night.
James Henry Moser.
Evening Glow, Mount McIntyre.
Henry Siddons Mowbray.
Idle Hours.
John Francis Murphy.
The Path to the Village.
Indian Summer.
Charles Frederick Naegele.
Mother Love.
George Glenn Newell.
Mists of the Morning.
Leonard Ochtman.
Morning Haze.
Henry Ward Ranger.
Entrance to the Harbor.
Connecticut Woods.
The Cornfield.
Bradbury's Mill Pond No. 2.
Groton Long Point Dunes.
Robert Reid.
The White Parasol.
The Mirror.
Frederic Remington (1861-1909).
Fired On.
Theodore Robinson (1852-1896).
La Vachère.
Old Church at Giverny.
William S. Robinson.
Monhegan Headlands.

- Albert Pinkham Ryder.
Moonlight.
- William Sartain.
Algerian Water Carrier.
- Walter Shirlaw (1838-1909).
Among the Old Poets.
Roses.
Water Lilies.
- Roswell Morse Shurtleff.
The Mysterious Woods.
- William Thomas Smedley.
One Day in June.
- Abbott Handerson Thayer.
Dublin Pond, New Hampshire.
- Dwight William Tryon.
November.
- John Henry Twachtman (1853-1902).
Round Hill Road.
The End of Winter.
The Torrent.
Fishing Boats at Gloucester.
- Alexander Theobald Van Laer.
Early Spring.
- Elihu Vedder.
The Cup of Death.
- Douglas Volk.
The Boy with the Arrow.
- Henry Oliver Walker.
Eros et Musa.
Musa Regina.
- Horatio Walker.
Sheepyard—Moonlight.
- Edgar Melville Ward.
The Blockmaker.
- Frederick Judd Waugh.
After a Northeaster.
Southwesterly Gale, St. Ives.
The Knight of the Holy Grail.
- Julian Alden Weir.
A Gentlewoman.
Upland Pasture.
- Worthington Whittredge (1820-1910).
Noon in the Orchard.

Carleton Wiggins.

Evening after a Shower.

The Pasture Lot.

Guy C. Wiggins.

Columbus Circle—Winter.

Irving Ramsay Wiles.

The Brown Kimono.

Russian Tea.

Frederick Ballard Williams.

A Glade by the Sea.

Conway Hills.

Alexander H. Wyant (1836–1892).

Autumn at Arkville.

The Flume, Opalescent River, Adirondacks.

Housatonic Valley.

Spring.

Cullen Yates.

Rock-Bound Coast, Cape Ann.

The Evans collection also includes an excellent series of proofs of American wood engravings, 115 in number, representing the work of Victor Bernstrom, William B. P. Closson, Timothy Cole, John P. Davis, Frank French, T. Johnson, F. S. King, Elbridge Kingsley, G. Kruell, R. A. Muller, C. A. Powell, S. G. Putnam, John Tinkey, F. H. Wellington, Henry Wolf, and Fred Yuengling.

OTHER PERMANENT ACQUISITIONS.

Nicolas Berghem (1620–1683).

Cattle Piece, Peasants, etc.

Received with the effects of James Smithson, founder of the Smithsonian Institution.

Frederic Edwin Church (1826–1900).

Aurora Borealis.

Gift of Miss Eleanor Blodgett, of New York.

R. E. W. Earl.

Portrait of Andrew Jackson in the Uniform of a Major General, U. S. Army.

Presented to the National Institute in 1844 by Maj. William H. Chase, U. S. Engineers. Received from the Institute in 1862.

John Elliott.

Diana of the Tides. A mural decoration.

Gift of Mr. and Mrs. Larz Anderson.

Antoine Etex (1808-1888).

Scene from the "Gentleman of France."

Gift of Mr. Nathan Appleton, of New York.

Harrington Fitzgerald.

The Wreck.

Gift of the artist.

Horatio Greenough (1805-1852).

Statue of Washington. Marble.

Transferred to the custody of the Smithsonian Institution
by joint resolution of Congress approved May 22, 1908.

Hamdy Bey.

Tomb of "Mahomet the Gentleman" at Broussa.

Bequest of Mrs. Elizabeth C. Hobson, of Washington, for
whom it was painted in 1884.

George Peter Alexander Healy (1808-1894).

Portrait of F. P. G. Guizot.

Painted in 1841 on the commission of American citizens
residing in Paris, and by them forwarded to President Tyler
to be hung in one of the public buildings in Washington.
Received from the National Institute in 1862.

Portrait of William C. Preston.

Portrait of President John Tyler.

These two portraits were painted for the National Insti-
tute, from which they were received in 1862.

Portrait of Col. Albert G. Brackett, U. S. Army.

Bequest of Mrs. Albert G. Brackett, of Washington.

Eastman Johnson (1824-1906).

Portrait of Mrs. Cross, of Milford, Pa.

Gift of Mrs. James W. Pinchot, of Washington.

Norwood Hodge MacGilvary.

Twilight after Rain.

Presented by Mr. Frederic Fairchild Sherman, of New
York, in memory of his wife, Eloise Lee Sherman.

Michelangelo (1475-1564).

Head of David. Plaster cast from the original.

Gift of Louis Amateis, of Washington.

Adrien Moreau.

Crossing the Ferry.

Gift of Mrs. James Lowndes, of Washington, in memory
of her father, Lucius Tuckerman.

Joseph Mozier (1812-1870).

Il Penseroso. Marble.

Transferred from the Capitol at Washington.

Arvid F. Nyholm.

Portrait of John Ericsson.

Gift of the Swedish American Republican League of Illinois.

Lucien Whiting Powell.

Grand Canyon of the Yellowstone River.

Gift of Hon. J. B. Henderson, of Washington.

Thomas Buchanan Read (1822-1872).

Portrait of himself.

Gift of Miss Maria Fassett Robinson, of Washington.

Henry Reuterdaahl.

The Combat between the Monitor and the Merrimac.

Gift of the Swedish American Republican League of Illinois.

José de Ribera (Spagnoletto) (1588-1652).

Job and His Comforters.

Presented by Dr. Robert W. Gibbes, of Columbia, S. C., in 1841, to the National Institute, from which it was received in 1862.

Max Weyl.

Indian Summer Day.

Gift of thirty Washington friends of the artist, to commemorate his seventieth birthday, December 1, 1907.

Artists unknown.

Portrait of Washington.

Bust portrait belonging with the Lewis collection of Washington relics, purchased by the Government in 1878.

Portrait of Andrew Jackson.

Deposited by the Navy Department.

LOANS.

From Mr. Ralph Cross Johnson, of Washington.

David Cox. Outskirts of a Wood.

Govaert Flinck. Madonna and Child.

Francesco Guardi. A View in Rome.

William Hogarth. Portrait of Mrs. Price.

Sir Thomas Lawrence. Portrait of Mrs. Towry.

Nicolaes Maes. A Man's Portrait.

Sir Henry Raeburn. Portrait of Archibald Skirving.

Sir Joshua Reynolds. Portrait of the Duchess of Ancaster.

George Romney. Portrait of Sir Sampson Wright.

William Clarkson Stanfield. Marine.

Richard Wilson. Italian Landscape.

From Mr. W. A. Slater, of Washington.

Jean Baptiste Camillé Corot. A Gray Day; Nymphs and Fauns.

Charles François Daubigny. Springtime.

Eugène Delacroix. Return of Columbus to Court of Ferdinand.

Narcisse Diaz. Forest of Fontainebleau; Group of Dogs; Island of the Cupids.

Jules Dupré. The Landing; Three Oaks.

Ignaz Marcel Gaugengigl. The Quartet.

Hubert Herkomer. Portrait of John F. Slater.

Meindert Hobbema. The Mill.

Madam Vigée Lebrun. Portrait of a Lady.

Louis Victor Felix Mettling. Portrait of a Boy.

Jean François Millet. The Drinking Place; Seamstresses Sewing on Shroud.

Monticelli. Female Figure.

A. Pasini. At the Barracks, Constantinople.

Raffaelli. Winter Landscape.

Rembrandt van Rijn. The Rabbi.

Theodore Rousseau. Sunset in a Wood.

Jacob Ruysdael. The Dunes near Haarlem.

Sienna School. Madonna and Child.

Constant Troyon. Horses at Watering Trough.

Alexander H. Wyant. Landscape.

From Mrs. James Lowndes, of Washington.

Pierre Marie Beyle. Fishing for Eels.

Blaise Alexandre Desgoffe. Still Life.

Mario dá Fiori. Boys and Flowers.

Jehan Georges Vibert. Preparing for the Masquerade.

From Dr. Thomas M. Chatard, of Washington.

Janssens. Portrait of Henrietta Maria.

Sir Peter Lely. Portrait of Mrs. Rous.

Thomas Sully. Portrait of Mrs. Nicholas Bosley, of Hayfields, Maryland.

From Mrs. Abercrombie-Miller, of Washington.

Eugène Verboeckhoven. Sheep.

Hillner. Alpine Landscape.

From Rev. F. Ward Denys, of Washington.

Perugino. Madonna and Child.

Guido Reni. St. Michael.

From Hon. George Peabody Wetmore, of Newport and Washington.

Constant Wauters. Versailles.

Edouard Detaille. Military Review (water color).

From Miss Silvie de Grasse Fowler, of Washington.

Nicolas de Largillière. Portrait of François Paul de Grasse de Rouville, Amiral Comte de Grasse.

G. P. A. Healy. Portrait of Theodosius O. Fowler.

Benjamin West. Portrait of St. Bernard Dog, Hero.

From Mrs. John Cropper, of Washington.

Michele Gordigiani. Portrait of Mr. John Cropper; Portrait of Mrs. John Cropper.

From Mrs. Florence A. Ebbs, of Washington.

Romanelli. Esmeralda (marble).

Harriet Hosmer (attributed to). Cordelia (marble).

From the Duchess de Arcos.

Eighteen paintings by foreign artists, only a part of which have been identified, and one marble, Bacchante, by Bien Aimé.

From Mr. Julius A. Truesdell, of Washington.

Gaylord Sangston Truesdell. After the Rain; The Shepherd's Lunch; Changing Pastures; The Wayside Shrine; Moonlight at the Sheep Fold; Cows by the Sea; The Path through the Gorse; Spring Landscape.

From Mrs. Mary Peoli Maginn, of New York.

John J. Peoli. Love Conquers; Cupid Caged.

From Dr. George Reuling, of Baltimore, Md.

G. P. A. Healy. Henry Clay on his Estate, Ashland.

John Wesley Jarvis. Portrait of William Clark, the Explorer.

John Neagle. Henry Clay making his Great Speech.

Gilbert Stuart Newton. Portrait of Miss Rieman.

Charles Willson Peale. General Washington at Princeton; Portrait of General Andrew Jackson.

Rembrandt Peale. Portrait of Henry Clay; Portrait of a Lady.

Sir Henry Raeburn. English Country Squire.

P. F. Roethermel. Launching of the Brigantine.

Gilbert Stuart. Portrait of Mrs. Lloyd.

John Trumbull. George Washington at Trenton; Portrait of General Washington; Battle of Bunker Hill.

From Mr. Theodore Sutro, of New York.

Edward Moran. Thirteen historical marine paintings, as follows: The Ocean—The Highway of all Nations; Landing of Leif Erikson in the New World, in 1001; The Santa Maria, Nina, and Pinta, Evening of October 11, 1492; The Debarcation of Columbus, Morning of October 12, 1492; Midnight Mass on the Mississippi over the Body of Ferdinand de Soto, 1542; Henry Hudson entering New York Bay, September 11, 1609; Embarkation of the Pilgrims from Southampton, August 5, 1620; First Recognition of the American Flag by

From Mr. Theodore Sutro, of New York—Continued.

a Foreign Government—In the Harbor of Quiberon, France, February 13, 1778; Burning of the Frigate Philadelphia—In the Harbor of Tripoli, February 16, 1804; The Brig Armstrong Engaging the British Fleet—In the Harbor of Fayal, September 26, 1814; Iron versus Wood—Sinking of the Cumberland by the Merrimac in Hampton Roads, March 8, 1862; The White Squadron's Farewell Salute to the Body of Captain John Ericsson, New York Bay, August 25, 1890; Return of the Conquerors—Typifying our Victory in the late Spanish-American War, September 29, 1899.

Loans of single pieces.

- J. Carroll Beckwith. The Emperor. From the artist.
 Constantino Brumidi. The Five Senses. From Miss Olivia and Miss Ida Walter, of Washington.
 W. H. Fisk. Portrait of George Catlin. From Mrs. Louise Catlin Kinney.
 Jean Baptiste Adolphe Gibert. Portrait of Henry Clay. From Mr. Watterson Stealey, of Washington.
 Edward Kemeys. Selection of his works of animal sculpture in bronze and plaster. From Mrs. Kemeys.
 Henry Hudson Kitson. Bust of Vittorio Emanuele III, King of Italy (plaster). From the artist.
 J. Van Lierus. Death Preferred. From Mrs. Frances E. Musgrave, of Washington.
 Thomas Moran.
 In the Grand Canyon of the Colorado. From Mrs. J. W. Powell, of Washington.
 From Hiawatha. From the estate of E. E. Howell.
 Murillo (copied from). The Beggars. From Mrs. Henry Wells, of Washington.
 Rembrandt (attributed to). Portrait of Rembrandt. From Mr. Benson B. Moore, of Mt. Rainier, Md.
 Francesco di Rosa (called Pacicco). Judith with the Head of Holofernes. From Mrs. Elizabeth Walbridge, of Washington.
 Augustus Saint-Gaudens.
 Standing Lincoln, reduced copy of the statue in Lincoln Park, Chicago, Ill. (bronze). From Mrs. John Hay, of Washington.
 Replica of the bust part of the same statue, full size (bronze). From Mrs. Saint-Gaudens.
 Gilbert Stuart. Portrait of Joseph Tuckerman, D. D. From Mr. Walter Tuckerman, of Washington.
 Launt Thompson. Statue of Napoleon, life size (bronze). From Mrs. James W. Pinchot, of Washington.

Otho van Veen (attributed to). The Nativity. From Dr. Anton Gloetzner, of Washington.

Robert Vonnoh.

Portrait of Charles Francis Adams (full length). From Mr. Adams.

Portrait of Charles Francis Adams (bust). From Mrs. Adams. Benjamin West. The Raising of Jairus' Daughter. From Mr. T. B. Walker, of Minneapolis, Minn.

Eduardo Zamaçois. Refectory. From Miss Emily Tuckerman, of Washington.

ART TEXTILES. •

Although the material which has been assembled in illustration of lace making and other textile handicraft still consists mainly of loans, through the continued interest of the ladies who have cooperated in making the exhibition successful, the collection has been allowed to remain practically intact, with interesting additions from year to year. As the importance of the collection becomes more fully recognized it is hoped that its permanence may be insured through the medium of gifts on a larger scale than heretofore. The lace exhibit now embraces a fairly connected series in respect both to the development of the industry and the varieties of laces, and also contains some important examples which from their quality and rarity form striking museum pieces. In fact, though smaller and less conspicuous in the matter of display material, the collection ranks high among the museum collections of the country. The work of the year, under the direction as heretofore of Mrs. James W. Pinchot, has related mainly to the improvement of the systematic installation and to the more complete labeling of both cases and specimens. The hall occupied by the collection continues to be one of the most attractive in the Museum.

The lace accessions of the year included a valuable piece of point d'Angleterre, presented by Mrs. William Phelps Eno, and the following loans, namely: From Mrs. John Jay White, 13 pieces of point d'Alençon, composing a wide flounce and 2 waists; from Mrs. James Maginn, of New York, 2 French caps, a Flemish collar, a pair of silk lace mitts, a handkerchief and centerpiece of Venezuelan lace, and a black Chantilly lace parasol; and from the Misses Long, an unidentified lace of the eighteenth century. An interesting oil painting, after the Dutch artist Terburg, illustrating the handicraft of the seventeenth century and entitled "The Lace Maker," presented by Miss Julia H. Chadwick, has been installed in connection with this collection.

Of embroideries and fabrics other than laces the following were received as loans: From Miss Mary H. Williams, a Spanish red velvet

cope of the sixteenth century, 3 pieces of brocade of the seventeenth century, a piece of red silk and 2 pieces of red velvet; from Miss Emily Tuckerman, 2 pieces of Louis XIV and 1 of Louis XVI embroidery; from the Rev. F. Ward Denys, a large Persian rug said to have been worked after a design by Raphael; and from Mrs. James Maginn, a small bag ornamented with beads and 4 embroidered handkerchiefs from Cuba, besides several samples for crocheting fringe. Mrs. Maginn also deposited 18 Spanish fans of the eighteenth century and 1 of the period of Louis XVI; and Mrs. James Tait Beck, of Camden, Ala., 2 late "Empire" fans.

Among miscellaneous articles placed on exhibition in connection with the textiles were a papillon ring and a figurine of an Egyptian god mounted in antique gold as a necklace, from Mrs. John Jay White; a bracelet of blue enamel and niello work on a woven gold band, from Miss Jennie M. Griswold; a gold bracelet which belonged to Mrs. Isaac Chauncy Long, from the Misses Long; and a mirror, called a "trumeau," the upper part of which frames an oil painting, from Miss Emily Tuckerman. Also placed with the textiles is a series of 57 photographs of designs of suits of armor made by Hans Holbein for the great tournament of Henry VIII, which were received as a gift from the Victoria and Albert Museum, London.

MISCELLANEOUS.

VISITORS.

The exhibition halls of the Museum are open to the public on every week day throughout the year, including holidays, and those in the new building on Sundays also. The hours are from 9 a. m. to 4.30 p. m. on week days, and from 1.30 to 4.30 p. m. on Sundays.

The total number of visitors admitted to the new building during last year was 319,806, an increase over the previous year of 37,919. Of this number, 261,636 represented the week-day attendance, and 58,170 the Sunday attendance, making the daily average for the former 836, and for the latter 1,118. At the older Museum building the total attendance was 173,858, and the daily average 555, the corresponding figures for the Smithsonian building having been 142,420 and 455, respectively. The Sunday average for the new building varied considerably at different periods, having been largest during the spring, and amounting to 3,343 for the month of May. The maximum Sunday attendance was 5,134, on May 4.

The week-day attendance at all of the buildings was very much greater in March than in any other month, as is always the case in years of presidential inauguration, the Museum being one of the principal attractions for the large crowds which gather in Washington for that occasion. During inaugural week alone, or from

March 3 to 8, inclusive, the number of visitors to the new building aggregated 31,951, a daily average of 5,325, the largest attendance on any single day having been 13,236 on March 5. The figures for each of the other buildings were about one-half as much.

The following tables show, respectively, the number of visitors during each month of the past year, and for each year beginning with 1881, when the older Museum building was first opened to the public:

Number of visitors during the year ending June 30, 1913.

Year and month.	Older Museum Building.	New Museum Building.	Smithsonian Building.	Year and month.	Older Museum Building.	New Museum Building.	Smithsonian Building.
1912.				1913.			
July.....	14,170	17,369	12,089	January.....	7,633	20,656	6,446
August.....	22,270	23,900	19,994	February.....	7,757	17,668	6,389
September.....	18,117	23,838	16,908	March.....	31,079	58,398	26,326
October.....	12,631	19,658	11,115	April.....	14,542	32,238	11,437
November.....	7,817	18,614	6,574	May.....	13,872	41,011	9,591
December.....	7,153	17,364	6,168	June.....	16,617	29,092	9,483
				Total.....	173,858	319,806	142,420

Number of visitors to the Museum and Smithsonian Buildings since 1881.

Year.	Older Museum Building.	New Museum Building.	Smithsonian Building.	Year.	Older Museum Building.	New Museum Building.	Smithsonian Building.
1881.....	150,000	.....	100,000	1898-99.....	192,471	.....	116,912
1882.....	167,455	.....	152,744	1899-1900.....	225,440	.....	133,147
1883.....	202,188	.....	104,823	1900-1.....	216,556	.....	151,563
1884 (half year).....	97,661	.....	45,565	1901-2.....	173,888	.....	144,107
1884-85 (fiscal year)	205,026	.....	105,993	1902-3.....	315,307	.....	181,174
1885-86.....	174,225	.....	88,960	1903-4.....	220,778	.....	143,988
1886-87.....	216,562	.....	98,552	1904-5.....	235,921	.....	149,380
1887-88.....	249,665	.....	102,863	1905-6.....	210,886	.....	149,661
1888-89.....	374,843	.....	149,618	1906-7.....	210,107	.....	153,591
1889-90.....	274,324	.....	120,894	1907-8.....	299,659	.....	237,182
1890-91.....	286,426	.....	111,669	1908-9.....	245,187	.....	198,054
1891-92.....	269,825	.....	114,817	1909-10.....	228,804	50,403	179,163
1892-93.....	319,930	.....	174,188	1910-11.....	207,010	151,112	167,085
1893-94.....	195,748	.....	103,910	1911-12.....	172,182	281,887	143,134
1894-95.....	201,744	.....	105,658	1912-13.....	173,858	319,806	142,420
1895-96.....	180,505	.....	103,650	Total.....	7,301,041	803,208	4,389,447
1896-97.....	229,606	.....	115,709				
1897-98.....	177,254	.....	99,273				

PUBLICATIONS.

The publications issued during the year consisted of 4 volumes and 105 papers printed separately. The former were volumes 42 and 43 of the Proceedings, and Bulletins 79 and 81, entitled, re-

spectively, "List of North American Land Mammals in the United States National Museum, 1911," by Gerrit S. Miller, jr., and "A Synopsis of the Rotatoria," by Harry K. Harring. Of the separate papers 96 belonged to the series of Proceedings, composing all of volumes 43 and 44 and parts of volumes 42 and 45, and 9 belonged to volumes 16 and 17 of the Contributions from the National Herbarium. They are listed in the bibliography at the end of this report. The regular distribution of the above publications aggregated about 57,300 copies, while of these and former publications some 14,300 copies were supplied in compliance with special requests.

Many reports on material belonging to the National Museum or to be added to its collections are printed elsewhere than in the Museum series. They consist in part of papers, often monographic, issued by the scientific bureaus of the Government and other scientific establishments, and in part of generally brief accounts of discoveries which it is important should be published more promptly than is possible through Government channels. Several of the scientific societies offer opportunities for such urgent publication, as does also the Smithsonian Institution. Mainly, but not entirely, belonging to this class are the following papers printed in the Smithsonian Miscellaneous Collections during 1913: "New mammals from eastern Panama" and "Descriptions of new mammals from Panama and Mexico," by E. A. Goldman; "New rodents from British East Africa," "New genera and races of African ungulates" and "New races of insectivores, bats and lemurs from British East Africa," by Edmund Heller; "New mammals from the highlands of Siberia," "Description of a new gazelle from northwestern Mongolia," and "Two new mammals from the Siberian Altai," by N. Hollister; "A new vole from eastern Mongolia," by Gerrit S. Miller, jr.; "Diagnosis of a new beaked whale of the genus *Mesoplodon* from the coast of North Carolina," by Frederick W. True; "A new subspecies of cross-bill from Newfoundland," by A. C. Bent; "Description of a new African grass-warbler of the genus *Cisticola*," by Edgar A. Mearns; "Descriptions of new genera, species and subspecies of birds from Panama, Colombia and Ecuador" and "Two new subspecies of birds from the slopes of Mount Pirri, eastern Panama," by E. W. Nelson; "Descriptions of one hundred and four new species and subspecies of birds from the Barussan Islands and Sumatra," by Harry C. Oberholser; "New diptera from Panama" and "Three new species of *Pipunculidæ* (Diptera) from Panama," by J. R. Malloch; "New species of landshells from the Panama Canal Zone," by William H. Dall; "Report on freshwater Copepoda from Panama, with descriptions of new species," by C. Dwight Marsh; "Notes on American species of *Peripatus*, with a list of known forms" and "The crinoids of the Natural History Museum at Hamburg," by

Austin H. Clark; "Rubelzul cotton: A new species of *Gossypium* from Guatemala," "Kokia: A new genus of Hawaiian trees" and "The cotton of the Hopi Indians: A new species of *Gossypium*," by Frederick L. Lewton; "Saffordia, a new genus of ferns from Peru," by William R. Maxon; "A recent meteorite fall near Holbrook, Navajo County, Arizona," by George P. Merrill; "New York Potsdam—Hoyt-Fauna" and "Group terms for the Lower and Upper Cambrian series of formations," by Charles D. Walcott; "Notice of the occurrence of a Pleistocene camel north of the Arctic Circle" and "An extinct American eland," by James Williams Gidley; "A new dinosaur from the Lance formation of Wyoming," by Charles W. Gilmore; "The recognition of Pleistocene faunas" and "Description of the skull of an extinct horse, found in central Alaska," by Oliver P. Hay; and "A fossil toothed cetacean from California, representing a new genus and species," by Frederick W. True.

In accordance with a provision of the Legislative, Executive, and Judicial Act approved August 23, 1912, the work of wrapping, labeling, and despatching all Museum publications, previously performed by the Museum, was, on October 1, transferred to the direction of the Public Printer, and has since been conducted by the Superintendent of Documents. This change, however, has not affected the responsibility and discretion of the Museum in regard to the mailing lists, which, together with all special orders, are transmitted to the Superintendent of Documents through its office of correspondence. In addition to the publications, the editorial office also has charge of all miscellaneous printing and binding, the former including a considerable variety of work, in connection with which the labels for the collections figure most conspicuously.

LIBRARY.

The Museum library is wholly technical in character and restricted to the class of works needed for the study and classification of the collections, but owing to the great diversity of the latter it is required to cover a wide range of subjects in the sciences and the arts and industries. Originating in the gift by Prof. Spencer F. Baird, the second Secretary of the Institution, of his scientific library, it has attained considerable size and importance though never approached the standard of completeness that would make it even fairly effective; and, despite the opportunity of drawing upon several other large Government libraries and that of the Smithsonian Institution, the work of the Museum has often been seriously inconvenienced and delayed by the lack of books which are not to be found in Washington. The annual purchase fund has been inadequate to satisfy more than a very limited part of the demands. The principal resource in this

regard has consisted of the Museum's own publications, constituting an important asset for exchange, through which have been secured the publications of most of the scientific institutions of the world, and also those of many individuals. The library has likewise been fortunate in receiving a large number of donations, and while some of these have come from friends not connected with the Museum, the most constant contributors have been members of its staff. Notwithstanding these several sources of acquisition, however, there are many very necessary books published privately from year to year which, under present conditions, must continue to be classed as important desiderata.

Maintained solely for promoting the work of the Museum, the library is administered with special reference to the convenience of the staff, and besides the central rooms in which are kept all general works and those treating of two or more subjects, each division and each principal office is allowed to have in its immediate possession such of the publications relating wholly to its province as may be desired. These several branch collections, of which there are 33 at present, are known as sectional libraries. They are under the supervision of the main library, from which the books assigned to them are withdrawn as by any borrower and with the same responsibilities.

With the moving of the collections of anthropology, zoology, and geology, it was important that the books relating to the same subjects be also transferred to the new building. This has now been done, leaving the publications on the arts and industries and history in the older building, and likewise the botanical library, which is there most conveniently located for the division of plants. In view, moreover, of the more ample accommodations afforded by the new building and the fact that the larger proportion of the publications were included in the transfer, it has seemed best that the library there established should be the central one for the receipt, recording, cataloguing and distribution of all books and for all other preparatory work, and this plan has been carried out.

The equipment of the library space in the new building having been completed early in the autumn of 1912, the moving was begun about the middle of October, and, including the placing of the books on the shelves, was finished in the course of a month. While much still remained to be done in the matter of verifying and perfecting the arrangement, at no time was there any serious interruption in the use of the library or in the continuity of its relations to the sectional branches. The rearrangement and cataloguing of the publications left in the older building were also taken up and well advanced by the close of the year.

The library received 1,690 books, 2,213 pamphlets and 159 parts of volumes during last year, and contains at present 43,692 volumes and

72,042 unbound papers. There were borrowed from other Government libraries for the use of the staff a total of 4,154 titles, which came mainly from the Library of Congress, and to a lesser extent from the Department of Agriculture, the Army Medical Museum, and the Geological Survey.

The records of the library, all of which are kept in card form, comprise an accession catalogue, an authors' catalogue, a periodical catalogue, and a lending record. Seven hundred and eighty-two books, 892 complete volumes of periodicals, and 2,229 pamphlets were catalogued during the year, and the Zurich catalogue was brought up to date in the matter of classification and arrangement of the cards. The number of volumes bound for the library was 881.

The new quarters and their equipment may be briefly described as follows:

The space assigned to the library in the new building, located in the ground story of the northern section of the east range, consists of what was originally a single room, with northern exposure, 107 feet 7 inches long by 21 feet 1 inch wide, and a smaller room, facing on the east court, measuring 39 feet by 21 feet 4 inches. The former has been divided into three compartments for the book stacks, catalogue cases, and reading accommodations, while the latter is used for office purposes and preparatory work. All of the space is well lighted and ventilated, the equipment is modern and fireproof, and the facilities excellent in all respects.

The three northern compartments are separated by fireproof walls of macite, with large communicating openings. Beginning at the east, and with a uniform dimension of 21 feet 1 inch between the outer and the corridor wall, is the stack room, 52 feet 3 inches long, followed by a small reading room, 18 feet 1 inch long, and a general reading room, also containing the catalogue files, 36 feet 4 inches long. All of this area is utilized to the full height of the story, this being accomplished by the introduction of a mezzanine floor in the stack room and of galleries in the reading rooms, which are at a uniform height of 7 feet 11 inches above the ground floor. The furnishings throughout, including slotted shelf uprights with adjustable shelves, card cases, mezzanine floor and galleries, stairs and lift, are of the Art Metal Construction Co.'s standard construction, and the entire work is supported on the ground floor, being braced laterally by comparatively few connections with the walls. The material of the stacks, cases and drawers is mild cold rolled steel.

In the stack room the general arrangement of the cases is the same both below and above the mezzanine floor. Single-faced stacks occupy practically all the wall surfaces, while the body of the room is traversed north and south by double-faced stacks, with interspaces of about 3 feet. Five of these stacks are of full height, which is 7 feet

4 inches on the ground floor and 7 feet 6 inches on the mezzanine floor, while 4 alternating ones have been carried only to a height of 3 feet 6 inches, in order that their tops may serve the purpose of tables in arranging and consulting books. On the ground floor the main passageway, 4 feet 8 inches wide, is on the window side of the room, the main stacks extending thence to join those along the south wall, but the lower stacks are much shorter. Above the mezzanine the general passageway, reduced to 2 feet 9 inches in width, is on the other or south side of the room, the main stacks extending against the piers between the windows and the rails in front of them.

The stacks have a 3-inch base and 4-inch cornice. The uprights, spaced for shelves 2 feet 11 inches long, are slotted at 1-inch intervals. Besides the fixed shelf at the base, the full height stacks are estimated to carry 6 adjustable shelves, and the lower ones proportionally fewer. On this basis, the shelf capacity of the room amounts to about 3,500 lineal feet. The shelves are 12 inches wide, of No. 16 gauge steel, stiffened at front and back by smoothly turned $\frac{3}{4}$ -inch rolls shaped to receive book supports. The exposed ends of all stacks have label holders, $7\frac{1}{2}$ by 4 inches, finished in statuary bronze. The surfaces are japanned and of a dark green color. The entire construction is of the best material adapted to the purpose and the workmanship has been thorough.

In one of the alcoves is a flight of stairs and nearby it is a lift for carrying books to the upper story. The latter is operated by hand, is self-retaining and has a lifting capacity of 75 to 100 pounds. Measuring $17\frac{1}{2}$ inches square inside and 26 inches high, it is constructed of brass wire mesh on the sides and back, with wood floor and wood frame top. The shaft is enclosed with iron wire mesh. The mezzanine floor consists of steel framing covered with wired hammered glass, having the smooth side up and sand blasted to give good footing and reduce the transparency. The glass rests on angle iron which projects above it at the sides to the extent of $\frac{3}{4}$ inch to form a curb, between which and all stacks there is an opening 2 inches wide for the circulation of air. All other and larger openings, as at the windows and the galleries in the other rooms, are protected by pipe railing.

The smaller reading room, which adjoins the stack room and is designed for special study purposes, is mostly lined, both above and below the gallery, with single wall stacks of the pattern before described. The gallery, of the same construction as the mezzanine floor, is 2 feet wide beyond the cases and is reached by iron stairs. In one corner on the lower floor is a steel manuscript case, 6 feet wide, 3 feet deep and 7 feet 6 inches high, divided vertically into two compartments, each with solid steel double doors secured by means of rod locks. The other furniture of this room includes a large table.

The main reading and consulting room has also a gallery continuous with that in the smaller room and of the same width and floor construction, which extends along the three walls other than that occupied by the windows. The space above it is filled with wall book-stacks of the standard pattern and size. Below the gallery the stacks are the same on the east side, but on the south and west sides they are deepened to 16½ inches and modified to accommodate the catalogue cases. Beginning at the top of a shelf space, 1 foot 9½ inches above the floor, are the series of compartments for the cards, followed above by another open shelf space, 2 feet 4½ inches high to the under side of the gallery. The catalogue cases are, with one exception, of a size to receive 7 drawers in height and 5 in width adapted to the standard 5 by 3-inch cards. There are 8 of these cases on the south wall and 6 on the west wall, with an additional case of the same height but only 4 drawers wide. Their aggregate capacity is 518 drawers, all of which can be conveniently reached from the floor. The drawers operate on cushioned slides, and securing rods are used. They hold about 1,000 cards each. Extending along the bottom line of these cases is a continuous projecting metal shelf or rest 9 inches wide.

Each of the two windows in the room will have, attached to the frame and sill, two oak shelves, divided into low compartments, for laying out the periodicals as received pending their assignment. The room also contains two large reading tables, measuring 6 by 8 feet. The entire library space above described is provided with a very complete and convenient arrangement of electric lighting.

The office or preparatory room, which is separated from the library proper only by a corridor, contains no gallery, but is fitted up with standard cases, 7 feet 6 inches high, which occupy most of the wall space and form two stacks extending partway across the room, dividing it into three sections or alcoves. The other furnishings consist of plain office furniture and such accessories as are needed for the preparation, cataloguing, etc., of the books before they are placed on the library shelves. The aggregate length of the shelving in all four rooms is approximately 5,663 feet.

The library space in the older Museum building is being used without material change, though one of the rooms, containing 610 square feet, has been assigned to the sectional library of administration. It consists of the ground floor and two galleries of a large room adjoining the northwest pavilion, and an enclosed gallery extending along two sides of the west north range, with a total floor area of 2,814 square feet. The furnishings, which are partly of wood and partly of metal, are of old and simple patterns, but the quarters as a whole are suitable and convenient for their present purpose.

MEETINGS AND CONGRESSES.

The accommodations afforded by the new building were extensively utilized during the year for meetings, congresses and other important functions. The Anthropological Society of Washington held its regular meetings, of which there were 14 during the season, in the larger committee room, while the auditorium was used by the Washington Society of the Fine Arts for two courses of 6 lectures each and one course of 5 lectures, the latter devoted to the great masters of music; by the Spanish-American Atheneum, which is organized to encourage the study of the literature and history of Spain and Spanish America, for 5 meetings; and by the Naval War College Extension for a series of weekly lectures for the benefit of officers of the Navy and Army, which extended from the middle of January to the middle of April.

Of three notable congresses which assembled in this country during September, 1912, two held brief sessions in Washington, while the third met only here. The former were the Eighth International Congress of Applied Chemistry and the Sixth International Congress for Testing Materials, to the members of each of which a reception was given, by invitation of the Regents and Secretary of the Institution, in the exhibition halls of the new building on the evenings of September 4 and 9, respectively. The Fifteenth International Congress on Hygiene and Demography met from September 23 to 27, inclusive, and of its 9 sections 4 were accommodated in the Museum building, namely: Dietetic hygiene and hygienic physiology; Hygiene of occupations; Military, naval and tropical (colonial) hygiene; and Demography. Two joint sessions and 3 of the 4 plenary sessions were also held in the same building, the latter in the auditorium on the evenings of September 23, 24 and 25, at which the speakers were, successively, Sir Thomas Oliver, of Newcastle, England; Dr. Jacques Bertillon, of Paris, France; and Ministerialrat Dr. Zahn, of Munich, Bavaria. On the evening of the 26th a reception to the delegates and members was given in the exhibition halls, in the name of the citizens of the District of Columbia, by the District committee for the congress.

Other important meetings were as follows: By the American Philological Association, the Archaeological Institute of America and the Society of Biblical Literature and Exegesis, in joint session from December 27 to 30, 1912; by the American Farm-Management Association, on January 21 and 22, 1913; by the National Academy of Sciences, which held its annual meeting on April 15, followed by a celebration of its semi-centennial anniversary, continuing 3 days from April 22, with a reception in the exhibition halls on the first evening; by the General Federation of Women's Clubs, on April 21 and 22; by the International Kindergarten Union, which held its twentieth annual convention, accompanied by an exhibition of kinder-

garten work by the local schools, from April 29 to May 2; and by the American Surgical Association which, as one of the constituent societies of the Congress of American Physicians and Surgeons holding its ninth triennial session in Washington, had its meetings in the Museum building from May 6 to 8. The Department of Agriculture had the use of the auditorium for two conferences, one for the field men of the Office of Farm Management, from January 6 to 21; the other for the employees of the Bureau of Animal Industry in charge of the federal meat inspection service throughout the country, from June 2 to 4. A reception in honor of the Daughters of the American Revolution was held, by invitation of the Regents and Secretary, on the evening of April 12; and another, in honor of Mr. James Wilson, who had just retired as Secretary of Agriculture, was given by the employees of the Department of Agriculture on the evening of March 6.

Reference may also be made here to the ceremonies attending the unveiling of the tablet in honor of Samuel Pierpont Langley, late Secretary of the Institution, installed in the vestibule of the Smithsonian building, which took place on May 6 or "Langley Day." The exercises were held in the adjoining main hall, in which had been assembled the three successful experimental models of the Langley aerodrome and the engine built for the large machine.

The Museum, in conjunction with the Institution, participated in two important congresses abroad. One was the Fourteenth International Congress of Prehistoric Anthropology and Archeology, held at Geneva, Switzerland, from September 9 to 15, 1912, at which Dr. Aleš Hrdlička, a curator of the Museum, was a delegate. The other was the Ninth International Zoological Congress, which met at Monaco from March 25 to 30, 1913, and at which the Museum representatives were Dr. Leonhard Stejneger, head curator of biology, Dr. Charles Wardell Stiles, of the Bureau of the Public Health, and Dr. Herbert H. Field, director of the Concilium Bibliographicum, at Zürich, Switzerland.

SPECIAL EXHIBITIONS.

The models and pictures illustrating the competitive designs for the Lincoln Memorial in Washington, by Mr. Henry Bacon and Mr. John Russell Pope, referred to in the last report, remained on exhibition throughout the year; and during most of the year the Museum was allowed to display two of the interesting models belonging to the Isthmian Canal Commission, one being a relief map of the Gatun dam and locks, the other a working model of the Pedro Miguel lock.

philanthropic, and social work in many capacities. He was also a founder of the Brooklyn Institute of Arts and Sciences, and a patron of, and the curator of Eocene mollusca in, the Academy of Natural Sciences of Philadelphia.

Dr. Chamberlain's relations with the National Museum arose through his marriage in 1890 with Miss Frances Lea, daughter of Dr. Isaac Lea, the eminent naturalist of Philadelphia, and one of the Museum's most generous benefactors through two distinct contributions following his death on December 8, 1886. One of these was the large and unrivalled collection of Unionidæ, or fresh-water mussels, which had not only been assembled by Dr. Lea at great expenditure of time and money, but had also been the subject of profound research by him, resulting in elaborate and standard publications. The other was a collection of gems and precious stones, sufficiently rich and varied to serve as a worthy foundation for an appropriate representation of this popular branch of mineralogy. During the short period of her married life, only 4 years, Mrs. Chamberlain, who had always taken a keen interest in the labors of her father, remained the patron of these collections, assisting in their increase and in the increase of the library relating to them. After her death, these duties were assumed by Dr. Chamberlain as of the nature of a sacred trust, which he faithfully and generously carried out during the many years that followed. His aid was not promiscuous, but was specifically directed toward the supplying of deficiencies and the strengthening of the collections where it was most needed, and it is especially interesting to note that through his contributions the Isaac Lea collection of Unionidæ has been kept much the foremost of this extensive group in the world.

In 1897 Dr. Chamberlain became honorary custodian of the collection of gems and precious stones in the Museum, and in 1905 he was designated honorary associate in mineralogy. Though long resident in New York City, his death occurred in Pasadena, Cal., and it was not until after the close of the fiscal year that information was received of the bequest in his will of a considerable sum of money, the interest of which is to be used for the increase and improvement of the two Isaac Lea collections.

Mr. Joseph Palmer, who was born in Barrow, Suffolk, England, in 1836, died in Washington on April 19, 1913. While a young man he worked for some years at the Crystal Palace at Sydenham, where he assisted Prof. B. Waterhouse Hawkins in connection with his celebrated restorations of extinct animals. In 1868 he came to this country with Prof. Hawkins, who had been commissioned to make similar reproductions for Central Park, New York, but this work being soon abandoned, Mr. Palmer found employment at the Park as taxidermist and general assistant at the Museum, and for

a time was in charge of the zoological garden. In 1873 began his connection with the National Museum, in which for a considerable period he was the only skilled preparator on the staff. His versatility and thorough knowledge of methods made him equally proficient in modeling, casting, taxidermy, and osteology, and the coloring of reproductions, and he was especially skillful in the building of animal and Indian lay-figure groups. In consequence, his services were largely availed of in the preparation and installation of exhibits for the international expositions in which the Museum participated, beginning with the Centennial Exhibition of 1876. During his later years his work was with the department of anthropology.

THE MUSEUM STAFF.

[June 30, 1913.]

CHARLES D. WALCOTT, Secretary of the Smithsonian Institution, Keeper *ex officio*.
RICHARD RATHBUN, Assistant Secretary, in charge of the United States National Museum.
W. DE C. RAVENEL, Administrative Assistant.

SCIENTIFIC STAFF.

DEPARTMENT OF ANTHROPOLOGY:

William H. Holmes, Head Curator.

Division of Ethnology: Walter Hough, Curator; Neil M. Judd, Aid; J. W. Fewkes, Collaborator; Arthur P. Rice, Collaborator.

Division of Prehistoric Archeology: William H. Holmes, Curator; E. P. Upham, Aid; J. D. McGuire, Collaborator.

Division of Historic Archeology: I. M. Casanowicz, Assistant Curator.

Division of Physical Anthropology: Aleš Hrdlička, Curator; R. D. Moore, Aid.

Division of Mechanical Technology: George C. Maynard, Curator.

Division of Graphic Arts: Paul Brockett, Custodian; Ruel P. Tolman, Aid.

Section of Photography: T. W. Smillie, Custodian.

Division of History: A. Howard Clark, Curator; T. T. Belote, Assistant Curator.

Associates in Historic Archeology: Paul Haupt, Cyrus Adler.

DEPARTMENT OF BIOLOGY:

Leonhard Stejneger, Head Curator; James E. Benedict, Chief of Exhibits.

Division of Mammals: Gerrit S. Miller, jr., Curator; Ned Hollister, Assistant Curator.

Division of Birds: Robert Ridgway, Curator; Charles W. Richmond, Assistant Curator; J. H. Riley, Aid.

Division of Reptiles and Batrachians: Leonhard Stejneger, Curator; R. G. Paine, Aid.

Division of Fishes: B. W. Evermann, Curator; Barton A. Bean, Assistant Curator; Alfred C. Weed, Aid.

Division of Mollusks: William H. Dall, Curator; Paul Bartsch, Assistant Curator; William B. Marshall, Aid; Mary Breen, Collaborator.

Division of Insects: L. O. Howard, Curator; J. C. Crawford, Associate Curator; Paul R. Myers, Aid.

Section of Hymenoptera: J. C. Crawford, in charge.

Section of Myriapoda: O. F. Cook, Custodian.

Section of Diptera: Frederick Knab, Custodian.

Section of Coleoptera: E. A. Schwarz, Custodian.

Section of Lepidoptera: Harrison G. Dyar, Custodian.

Section of Orthoptera: A. N. Caudell, Custodian.

Section of Arachnida: Nathan Banks, Custodian.

Section of Hemiptera: Otto Heidemann, Custodian.

Section of Forest Tree Beetles: A. D. Hopkins, Custodian.

Division of Marine Invertebrates: Richard Rathbun, Curator; Mary J. Rathbun, Assistant Curator; Austin H. Clark, Assistant Curator; C. R. Shoemaker, Aid; Harriet Richardson, Collaborator.

DEPARTMENT OF BIOLOGY—Continued.*Division of Marine Invertebrates—Continued.*

Section of Helminthological Collections: C. W. Stiles, Custodian; B. H. Ransom, Assistant Custodian; P. E. Garrison, United States Navy, Assistant Custodian.

Division of Plants (National Herbarium): Frederick V. Coville, Curator; W. R. Maxon, Assistant Curator; P. C. Standley, Assistant Curator.

Cactaceæ, Crassulaceæ, and Miscellaneous Mexican Collections: J. N. Rose, Custodian.

Section of Grasses: Albert S. Hitchcock, Custodian.

Section of Cryptogamic Collections: O. F. Cook, Assistant Curator.

Section of Higher Algae: W. T. Swingle, Custodian.

Section of Lower Fungi: D. G. Fairchild, Custodian.

Section of Diatoms: Albert Mann, Custodian.

Associates in Zoology: Theodore N. Gill, C. Hart Merriam, W. L. Abbott, Edgar A. Mearns, United States Army (retired).

Associates in Botany: Edward L. Greene, John Donnell Smith, J. N. Rose.

Collaborators in Zoology: D. D. Streeter, Albert M. Reese, Samuel Mixter.

DEPARTMENT OF GEOLOGY:

George P. Merrill, Head Curator.

Division of Physical and Chemical Geology (Systematic and Applied): George P. Merrill, Curator.

Division of Mineralogy and Petrology: F. W. Clarke, Curator.

Division of Paleontology: R. S. Bassler, Curator.

Section of Invertebrate Paleontology: T. W. Stanton, Custodian of Mesozoic Collection; William H. Dall, Associate Curator of Cenozoic Collection; T. Wayland Vaughan, Custodian of Madreporarian Corals.

Section of Vertebrate Paleontology: James W. Gidley, Assistant Curator of Fossil Mammals; Charles W. Gilmore, Assistant Curator of Fossil Reptiles.

Section of Paleobotany: David White, Associate Curator; A. C. Peale, Aid; F. H. Knowlton, Custodian of Mesozoic Plants.

Associate in Paleontology: Frank Springer.

DIVISION OF TEXTILES:

Frederick L. Lewton, Curator.

DIVISION OF MINERAL TECHNOLOGY:

Chester G. Gilbert, Curator.

NATIONAL GALLERY OF ART:

William H. Holmes, Curator.

ADMINISTRATIVE STAFF.

Chief of Correspondence and Documents, R. I. Geare.

Disbursing Agent, W. I. Adams.

Superintendent of Construction and Labor, J. S. Goldsmith.

Editor, Marcus Benjamin.

Editorial Clerk, E. S. Steele.

Assistant Librarian, N. P. Scudder.

Photographer, T. W. Smillie.

Registrar, S. C. Brown.

Property Clerk, W. A. Knowles.

Engineer, C. R. Denmark.

LIST OF ACCESSIONS TO THE COLLECTIONS DURING THE FISCAL YEAR 1912-1913.

[Except when otherwise indicated, the specimens were presented, or were transferred by bureaus of the Government in accordance with law.]

ABBOT, C. G., Smithsonian Institution:
11 plants from Algeria (54617).

ABBOTT, Miss GERTRUDE, Balholm, Sogn,
Norway: Skull of an elk, and skull of
a Norwegian deer (55534).

ABBOTT, Dr. WILLIAM L.: Masai orna-
ments and spears, East African swords
with their sheaths, African shields,
models of palanquins from Madagascar,
firearms, fragments of a human skull,
fragments of the headskins and hoofs of
mammals and a few skulls, received
through Miss Gertrude Abbott (55001;
55071); 289 mammals, 16 shells and 4
birds, from India (55180); approxi-
mately 475 mammals, 488 birds, 25 rep-
tiles, 10 insects, 2 marine invertebrates,
and a shell, collected by H. C. Raven
in Dutch Borneo (55611).

ABERCROMBIE, DAVID T., New York
City: Salted skins of two trout from Lac
Cassette, Rimouski County, Quebec,
Canada (54683).

ABERCROMBIE-MILLER, Mrs., Washington,
D. C.: 2 oil paintings, "Sheep," by
Eugène Verboeckhoven, 1853, and
"Alpine Landscape," by Hillner
(55186: loan).

ACADEMY OF NATURAL SCIENCES, Phila-
delphia, Pa. (through Philip P. Cal-
vert): 91 neotropical dragonflies (54316:
exchange).

ADAMS, C. C., University of Illinois,
Champaign, Ill. (through Philip P.
Calvert): 12 neotropical dragonflies
(54325: exchange).

AGRICULTURAL EXPERIMENT STATION,
Orono, Me. (See under Maine.)

AGRICULTURAL EXPERIMENT STATION,
Morgantown, W. Va. (See under West
Virginia.)

AGRICULTURAL EXPERIMENT STATION,
UNIVERSITY OF FLORIDA, Gainesville,
Fla. (See under Florida.)

AGRICULTURE, DEPARTMENT OF:

Specimen of *Pecocephalus kewensis*
from the Agricultural grounds (55155).

Bureau of Biological Survey: 8 plants,
including 3 specimens of *Hymenocallis*
coronaria, collected by A. H. Howell in
Alabama (54270; 55547); minute land
shells from the ruins of Old Panama
City, land shells representing 3 species
from Empire, Canal Zone, 112 plants
(including 11 living orchids and a
living specimen of *Cereus*) and 9 speci-
mens of fresh-water crabs, from
Panama, all collected by E. A. Gold-
man (54293; 54301; 54339; 54351; 54424;
54480); 20 living specimens of Cactaceæ
and 6 fishes, collected by Mr. Goldman
in Arizona (55457; 55471; 55577; 55626);
76 plants, including living specimens
of *Opuntia*, collected in Mississippi by
E. G. Holt (54517; 54704; 54739); 5 eggs
of noddy, *Anous stolidus*, from Porto
Rico (54530); 10 plants collected in
North Dakota by Vernon Bailey
(54581); 9 living specimens of Cactaceæ
collected in Porto Rico by Alex Wet-
more (54302; 54463); living specimen of
Mamillaria, collected in Colorado by
C. Birdseye (54302); 5 living specimens
of *Opuntia* from Louisiana and Vir-
ginia, collected by W. L. McAtee
(54634; 55511); 12 living specimens of
crayfishes, received through W. H.
Baker, Muldon, Miss. (54364); reptiles

AGRICULTURE, DEPARTMENT OF—Contd.
and batrachians from Plummer's Island, Md. (55012); types and cotypes of *Salmo nelsoni* and *Fundulus meeki*, collected in Lower California by E. W. Nelson in 1905 (55050); 21 specimens of Orthoptera (55121); 150 plants from the southern part of the United States (55268); 4 plants from Arizona (55376); 350 specimens of determined Coleoptera (55483); 3 crabs from Wallops Island, Va. (55512).

Bureau of Entomology: 297 specimens of Coleoptera and Hemiptera, determined by A. L. Montandon (54284; 54335; 54555; 54589; 54994; 55314); 17 specimens of fleas, determined by Hon. N. Charles Rothschild (54358: exchange); specimens illustrating silkworm raising and the raw silk industry (54306); specimen of *Sceliphron spirifer* and nest, received from Prof. Robert Newstead, Liverpool School of Tropical Medicine, Liverpool, England (54672); 6 specimens of mollusks, representing 2 species, collected by A. C. Morgan at Clarksville, Tenn. (54760); 2,319 insects collected in India by R. L. Woglum (55136); 7 beetles (55403).

Entomological Laboratory, Hagerstown, Md.: A nemertean and a specimen of clam, *Venus mercenaria*, from Chesapeake Bay (54412).

Forest Service: Desiccated body of an infant, found in a cliff dwelling in the Gila National Forest, N. Mex., by a timber reconnaissance party (54495).

Bureau of Plant Industry: 12 plants from Chile, and 3 living specimens of *Opuntia* collected in Utah by H. L. Shantz (54289); 11 ferns collected in Arizona and California by E. O. Wooton (54292); 31 plants, including 4 living specimens of *Mamillaria*, collected by E. O. Wooton in Arizona and New Mexico (54635; 54908); 11 plants collected in California, mainly by Clarence Peterson (54375); specimen of living cactus collected by T. H. Kearney in Utah (54407); 19 specimens of Malvaceae transmitted by F. L. Lewton and 23 plants collected in the western part of the United States by Ivar Tidestrom (54439); 2 specimens of living

AGRICULTURE, DEPARTMENT OF—Contd.
cactus, including one of *Mamillaria vivipara*, collected by S. C. Mason in Mandan, N. Dak. (54456; 54703); a package of seeds of *Echinocactus* collected by S. C. Mason at Palm Springs, Cal. (55461); type of *Medicago arabica inermis* (54539); 80,000 mounted specimens of grasses (54541); 3 plants from Louisiana (54569); 9 packages of cactus seeds obtained by J. D. Husbands in Chile (54632); 12 plants collected in Ceylon by C. V. Piper (54675); 1,150 plants from the District of Columbia and vicinity, collected by F. H. Hillman; also 5 ferns from Ceylon (54684); living specimen of *Mamillaria fasciculata* from Arizona, collected by E. W. Hudson (54694); 12 living specimens of *Opuntia* from Arizona, collected by W. T. Swingle (54701); a set of the U. S. official cotton grades and a specimen of the vacuum tubes used in preserving the standards (54822); 127 fiber specimens (54856); 3 specimens of *Yucca* from Arizona (54858); 5 plants collected by C. D. Marsh in Arizona and Colorado (54979); type specimen of *Inodes exsul* collected by O. F. Cook in Texas (55043); specimen of *Sagittaria* collected by Frederick V. Coville in Oregon (55204); 100 plants collected in Mexico by G. N. Collins (55253); 229 plants, including 142 specimens of grasses, collected in the West Indies by A. S. Hitchcock (55267; 55493); 2 specimens of *Agave* from Ecuador, received by the Bureau through L. H. Dewey (55347); 270 plants chiefly from Montana, collected by W. W. Eggleston (55352); 2,000 specimens of grasses chiefly from the West Indies (55365); 110 plants collected in the western part of Texas by C. R. Ball (55373); specimen of *Piaropus* from Panama (55439); 6 specimens of fungi (55464).

AGRICULTURE AND TECHNICAL INSTRUCTION FOR IRELAND, DEPARTMENT OF (FISHERIES BRANCH). (See under Dublin, Ireland.)

AGUIRRE, DR. RAFAEL TEJADA, Guatemala City, Guatemala: 25 plants from Guatemala (54967).

- ALEXANDRA PARK, Manchester, England (through Robert Lamb, superintendent): 19 living specimens of *Cactaceae* (54732; 54899; 55033). Exchange.
- ALLARD, H. A., U. S. Department of Agriculture, Washington, D. C.: 4 treefrogs (55110).
- ALLEN, ROSHAN, Washington, D. C.: Specimen of *Neuroptera* (55619).
- ALLNUT, CEICLE, Rockville, Md.: Young red fox (55269).
- ALSTENS, FRANK, Wabeno, Wis.: Fungus from Wisconsin (55077).
- ALSTON, G. W., Inez, N. C. (through D. B. Sterrett, U. S. Geological Survey): An amethyst crystal from Warren County, N. C. (54960).
- AMERICAN GRANITE COMPANY, Milwaukee, Wis.: A five-inch cube of granite (55088).
- AMERICAN MUSEUM OF NATURAL HISTORY, New York City: A neotropical dragonfly, received through Philip P. Calvert (54327: exchange); 2 isopods from Patagonia (54646); implements, basketry, etc., from an island off the coast of Chile, corresponding to a similar class of relics found with the "coppered mummy" of a man in a copper mine in the same locality (54658: exchange); 6 Bolivian skulls (54932: exchange).
- AMERICAN WOOLEN COMPANY, Boston, Mass. (THE NATIONAL AND PROVIDENCE WORSTED MILLS, Providence, R. I.): A large collection of woolen and worsted fabrics and specimens illustrating the processes of yarn manufacture; also 71 photographs illustrating wool-to-cloth processes (54882).
- AMORY, COFLEY, jr., Cambridge, Mass.: Approximately 60 mammal skins and skulls and 30 fossil mammal bones, from Yukon and Alaska (54894: collected for the Museum).
- ANDREWS, D. M., Boulder, Colo.: Specimen of *Asplenium andrewsii* from Colorado (54863).
- ANDREWS, R. P., PAPER COMPANY, Washington, D. C.: 3 copies of water-marked letterheads of the R. P. Andrews Paper Company (55187).
- APPEL, W. D., Bureau of Biological Survey, Washington, D. C.: Invertebrates and fishes from Bethany Beach, Del. (54320).
- APPLETON, EBEN, New York City: "The Star-Spangled Banner," garrison flag of Fort McHenry, Baltimore, during the bombardment of the fort by the British, September 13, 14, 1814, when it was successfully defended by Lieut. Col. George Armistead and the brave men under him (54876).
- ARABOL MANUFACTURING COMPANY, New York City: 51 samples of materials used in the manufacture and finishing of textiles (54926).
- ARIZONA, UNIVERSITY OF, TUCSON, ARIZ.: 400 plants from Arizona, received through Prof. J. J. Thornber (54353).
- ARMBRUSTER, RAYMOND, Cumberland, Md.: 2 specimens of Tertiary mammals from cave deposit near Cumberland (54610).
- ARNOLD ARBORETUM, HARVARD UNIVERSITY, Jamaica Plain, Mass.: Specimen of *Thrinax* from Florida (54294: exchange).
- ARNOLD, DR. RALPH, Los Angeles, Cal.: Collection of Pleistocene, Oligocene and Eocene Tertiary fossils from various localities in Venezuela, collected by the donor and his assistants (55597).
- ARTHUR, Prof. J. C., Lafayette, Ind.: 3 living specimens of *Opuntia humifusa* from near Lafayette (54708).
- AUSTRALIAN MUSEUM. (See under Sydney, New South Wales, Australia.)
- BABCOCK, J. P., Provincial Fisheries Department, Victoria, British Columbia: 2 bottles of specimens of *Thysanossa spinifera* from the stomachs of salmon (54724).
- BAHR, ELMER H., Baguio Mountain Province, P. I.: Specimen of *Lepidoptera*, *Mikonia coronifera* (54735).

- BAILEY, H. B., Newport News, Va.: 8 mammal skulls (54659; 54711; 55170).
- BAILEY, H. H., Newport News, Va.: 10 bird skins from Virginia (54604); 13 mammal skulls from Giles County, Va. (55560); newt from Virginia (55596); 8 skulls of mammals and 4 land shells, from Mountain Lake, Va. (55610).
- BAKER, Prof. CHARLES FULLER, College of Agriculture, University of the Philippines, Los Baños, P. I.: 2 specimens of *Selaginella*, 12 specimens (representing 2 species) of shrimps, 133 specimens of Lepidoptera, 19 parasitic Hymenoptera, and about 60 specimens of Coleoptera, all collected in the Philippine Islands (54859; 54945; 54948; 55124; 55206; 55280).
- BAKER, Dr. FRED., Point Loma, Cal.: 10 specimens, representing 4 species, of *Amphullaria* from Brazil (54625; 55057).
- BAKER, Prof. H. B., Zoological Laboratory, University of Michigan, Ann Arbor, Mich.: 32 species of land and fresh-water shells from Cheboygan County, Mich. (54303).
- BAKER, HENRY D., American consul, Nassau, Bahamas (through Department of State): A large, ring-shaped specimen of sheepswool sponge; also 4 lizards from Andros Island (55169).
- BAKER, Miss M. E., Springfield, Vt.: Specimen of *Pinus sylvestris* (55441).
- BALDUS, J. G., Brookland, D. C.: Nest and 2 young of blue jay, *Cyanocitta cristata*, from the District of Columbia (54279).
- BARBER, H. S., Bureau of Entomology, Washington, D. C.: Specimen of *Hyppocrella* from Maryland (54520).
- BARBER, Mrs. MARY B., Canton, Ohio: Cream satin gown and boots worn by Mrs. William McKinley at the Inaugural Ball, March 4, 1897, and a lace handkerchief and a gauze-and-pearl fan which belonged to her (54791: loan).
- BARBOUR, Dr. THOMAS, Museum of Comparative Zoology, Cambridge, Mass.: 3 amphipoda, *Melita nitida*, from a cave in Cuba (54853).
- BARROTT, A. F., Owego, N. Y.: 2 human skulls from graves in Mississippi County, Ark. (55191: exchange).
- BARROW, Dr. B., Barrows Store, Va.: Batrachian, *Amphiuma means*, from Brunswick County, Va. (54558).
- BARTLETT, H. H., U. S. Department of Agriculture, Washington, D. C.: 8 specimens of *Rhus* from Michigan (55431); 11 specimens of *Laciniaria* from Alabama (55546); 60 specimens of *Quercus* from the southeastern part of the United States (55623). Exchange.
- BARTSCH, Dr. PAUL, U. S. National Museum: Specimen of yellow-billed cuckoo *Coccyzus americanus* (54573); 9 Lepidoptera and 2 Diptera, from Paris, Va. (54713).
- BASSLER, Dr. R. S., U. S. National Museum: 26 casts of type specimens, representing 13 species, from the Lower Ordovician of New Jersey (made from specimens borrowed from the New Jersey Geological Survey) (54660).
- BAUSCH AND LOMB OPTICAL COMPANY, Rochester, N. Y.: 4 photographic lenses and a compound shutter (54605).
- BEAN, BARTON A., U. S. National Museum: 2 young sturgeon, *Acipenser sturio oxyrhynchus*, from North Carolina (54639).
- BEAN, Dr. TARLETON H., Conservation Commission, Albany, N. Y.: Type specimen of *Pontinus microlepis* collected in Bermuda by L. L. Mowbray (54399); 3 specimens of *Plectropops retrospinis* from Bermuda (54514); 3 species of fresh-water shells from the stomach of whitefish, *Coregonus labradoricus*, from Canandaigua Lake, N. Y. (54742).
- BEARSS, J. T., St. Cloud, Fla.: 9 living specimens of *Opuntia* from Florida (55456: exchange).
- BECK, Mrs. JAMES TAFT, Camden, Ala. (through Mrs. A. T. Moore, U. S. National Museum): 2 French fans, late Empire, with richly carved pearl sticks (54774: loan).
- BECKWITH, J. CARROLL, New York City: An oil painting entitled "The Emperor," by J. Carroll Beckwith (55392: loan).

- BEE HIVE ONYX MARBLE COMPANY, Grantsville, Utah: A cube of onyx marble (54556).
- BEMENT, CLARENCE S., Philadelphia, Pa. (through F. W. Clarke): A nearly complete individual of the Holbrook, Ariz., meteoric stone, weighing 1,120 grams (55301).
- BENEDICT, Dr. J. E., U. S. National Museum: Specimen of Cooper's hawk, *Accipiter cooperi*, from Woodside, Md. (55366).
- BENEDICT, J. E., jr., Woodside, Md.: Salamanders and worms from Maryland (55111).
- BENNETT, E. E., and T. J. SAUM, Seattle, Wash. (through J. M. Jessup): Beetles from northeast Alaska, on the International Boundary between Rampart House and the Arctic Ocean (54993).
- BENNETT, P. P., Toledo, Ohio: Samples of epeomite from Douglas County, Ore. (54897).
- BENT, A. C., Taunton, Mass.: 2 sets of bird eggs from Alaska, namely, northern phalarope, *Lobipes lobatus*, and fork-tailed petrel, *Oceanodroma furcata* (54712).
- BERLIN (DAHLEM BEI STEGLITZ), GERMANY, KÖNIGL. BOTANISCHER GARTEN UND BOTANISCHES MUSEUM: Photograph and fragment of the type of *Davallia flexuosa* from Martinique (54538); 2 specimens of *Lycopodium* from Costa Rica (54921); 281 specimens of ferns (54969); fragment of the type of *Lycopodium callitrichaeifolium* (55086); specimen of *Cereus wittii* from Manaos, Brazil (55422). Exchange.
- BETHEL, E., Denver, Colo.: 4 adults and 3 larvae of honey ants (54868).
- BEZZI, Prof. Dr. M., Turin, Italy: 49 specimens, representing 26 species, of Trypetidae (54989: exchange).
- BICKHARDT, HEINRICH, Cassel, Germany: 2 histrid beetles, *Notodoma formosanum* and *Sternocelis arachnoides* (55489: exchange).
- BIGLOW, Capt. A. B., Eckley, Ore.: 10 specimens of the nine-spined stickleback, *Pungitius pungitius*, from a lake on the coastal plain of the Arctic Ocean (54904).
- BLANKINGSHIP, Dr. O. F., Richmond, Va.: Annelid, *Rhynchobolus dibranchiatus* (55484).
- BLYTHE, W. B., Meeker, Colo. (through T. W. Stanton, U. S. Geological Survey): 8 concretions from Colorado (55100).
- BOLLMAN, H. C., Smithsonian Institution: 2 specimens of *Phoradendron* from Maryland (54922).
- BONAPARTE, PRINCE ROLAND, HERBARIUM OF, Paris, France (through C. Belhatte): Part of the type of *Lycopodium barbatum* from Costa Rica (54823: exchange); 128 ferns from various localities (55235: exchange); 200 plants from Mexico (55235).
- BOSTICK, EARL, Goulds, Fla.: Spider, *Acrosoma gastracantha* (54433).
- BOTANIC GARDENS. (See under Sydney, New South Wales, Australia.)
- BOTANISKA MUSEUM, UPSALA UNIVERSITETS. (See under Upsala, Sweden.)
- BRACKETT, Mrs. ROSE F. (through the American Security and Trust Company, executor, Washington, D. C.): Portrait, in oil, of Col. Albert G. Brackett, U. S. Army, by G. P. A. Healy (54940: bequest).
- BRAENDLE, FRED J., Washington, D. C.: A catholic rosary made from the seeds of the Kentucky coffee bean, *Chionanthus virginica* (54753).
- BRANDGEE, T. S., University of California, Berkeley, Cal.: 33 plants, including some ferns, from Mexico (54567; 54806; 55078); 327 plants collected in Mexico by C. A. Purpus (55310: purchase).
- BRANNER, Dr. J. C., Leland Stanford Junior University, Stanford University, Cal.: 4 species of marine shells collected by Olaf Jenkins on the Stanford Expedition of 1911, at Ceará Mirim, State of Rio Grande do Norte, Brazil (54762).

- BREMER, W. M., Carnesville, Ga.: Bannerstone of pagodite flaked with mica and specks of iron rust (54777: purchase).
- BRENNER, Dr. F. T., Quincy, Ill.: Specimen of slug, *Limax flavus* (54985).
- BRIMLEY, C. S., Raleigh, N. C.: Larva of a salamander, *Gyrinophilus porphyriticus* (54355); 5 salamanders, *Ambystoma opacum*, and 1 lot of eggs, from North Carolina (54721: purchase); salamanders, 2 of *Spelerpes ruber schencki* (one a type), 1 of *S. ruber*, 2 of *Plethodon metcalfi* (one a type), and 1 of *P. glutinosus* (54824); 4 specimens of Lepidoptera (55408).
- BRISTOW, JOSEPH Q., Washington, D. C.: 100 specimens of Ordovician fossils from Kentucky (54961); engraving entitled "The Monarch of the Glen," after Sir Edwin Landseer, R. A., engraved by Richard Dudensing (55188); 110 specimens of recent shells, 5 rock specimens (veins and jointing), 2 Cuban mango seeds, and 2 bullets from Civil War battlefield (55195).
- BRITISH MUSEUM (NATURAL HISTORY). (See under London, England.)
- BRITTON, Dr. W. E., Agricultural Experiment Station, New Haven, Conn.: 7 adult sawflies and a number of sawfly larvæ (54468).
- BROWN, C. G., Miss JULIA G. BROWN and Miss KATHERINE BROWN. (See under Mrs. Mary J. Roach.)
- BROWN, E. J., U. S. National Museum: 5 specimens of salamander, *Diemictylus viridescens*, from Sullivan County, N. Y. (54508); skin of blackburnian warbler, *Dendroica fusca*, from Virginia (54532); skin of Tennessee warbler, *Vermivora peregrina*, from Florida (55020).
- BROWN, PHILIP G., Portland, Me.: Specimen and photograph of *Ulmus campestris* (54430).
- BRYAN, Maj. HARRY S., Mexico, Mexico: 11 Mexican antiquities and 12 specimens of Mexican weaving and beadwork (54645: loan); a small painting of a saint, on canvas backed with wood and inlaid with pearl shells (54746); Mexican ornaments and implements of pottery and stone; also blankets and other articles of weaving, etc. (54984: loan); a collection of 83 articles including Mexican crosses, a reliquary, amulets, figures, etc., and a stone carving of a Mexican deity (55388: loan); 2 silver extreme unction boxes each in the form of a cross, with chain, buckskin beaded coat, pottery stamp, 2 jadeite carvings, black stone carving, shell carving, and a silk hand-knit purse (55522: loan).
- BUCKINGHAM, Mrs. B. H. (See under Miss Isabel C. Freeman.)
- BUDAPEST, HUNGARY, HUNGARIAN NATIONAL MUSEUM, BOTANICAL SECTION: 100 plants from Hungary (Flora Hungarica Exsiccata, Cent. I.) (55256: exchange).
- BUNN, J. W., Midville, Ga.: Specimen of *Manfreda tigrina* from Georgia (55557).
- BURDEN, Miss KATHERINE, Washington, D. C.: 100 specimens of *Vallonia* from the District of Columbia (54624).
- BURDETTE, SAMUEL O., Mount Airy, Md.: 3 tree frogs from Maryland (54395); mammals from Maryland, including 7 skins with skulls (54665).
- BUREAU OF EDUCATION. (See under Manila, P. I.)
- BUREAU OF SCIENCE. (See under Manila, P. I.)
- BURNHAM, W. H., York, Pa.: Albino bobwhite, *Colinus virginianus* (54470).
- BUSH, B. F., Courtney, Mo.: 359 plants, chiefly from Missouri (55573: purchase).
- BUSHNELL, D. I., jr., Charlottesville, Va.: Hematite hammer from the vicinity of St. Louis, Mo. (54392); photographs of 3 ancient carved Mexican atlatis, 2 of which are in the Anthropological Museum, Florence, Italy, and the other in the Kircheriano Museum, Rome, Italy (55031); woven bag of the Winnebago Indians of Nebraska (55391); archeological objects including stone and bone implements, shell beads, pottery

BUSHNELL, D. I., jr.—Continued.

vessels, fragments of large pottery dishes and two human skulls, from St. Genevieve, Mo. (55593: collected for the Museum).

BUTTON, FRED L., Oakland, Cal.: *Cypræa*, representing 3 species, from the Eocene Tertiary of Victoria, Australia, collected by W. T. Bednall (54847).

CAILLET, Dr. J. H., Vesoul, Haute Saône, France: A fossil crab from the Mesozoic rocks of France (54547).

CALCUTTA, INDIA, GEOLOGICAL SURVEY OF INDIA: 14 specimens of laterite (55555: exchange).

CALCUTTA, INDIA, INDIAN MUSEUM: 4 specimens of Tenthredinidæ (54736).

CALIFORNIA, UNIVERSITY OF, Berkeley, Cal.: 2166 plants chiefly from California and Montana (54272); 12 ferns from Mexico (54676). Exchange.

CALVERT, Dr. PHILIP P., Academy of Natural Sciences, Philadelphia, Pa.: 54 neotropical dragonflies (54322: exchange); 78 dragonflies from various localities, including Borneo (54330).

CAMBRIDGE, ENGLAND, UNIVERSITY BOTANIC GARDEN: 3 living specimens of *Opuntia xanthostemma*, 4 of *O. monacantha*, and 4 of *O. cantabrigiensis* (54696: exchange).

CAMBRIDGE, MASS., MUSEUM OF COMPARATIVE ZOOLOGY: 36 neotropical dragonflies, received through Dr. Philip P. Calvert (54328: exchange); specimen of *Palaemonetes eigenmanni* (54373); 7 mammals from China (54590: exchange); 44 bird skins from the Altai Mountains, Siberia, collected on the expedition of Prof. Theodore Lyman (55085: exchange).

CAPRON, Mrs. ALLYN, sr., Fort Myer, Va.: Medal and button of the Aztec Club, U. S. Army, 1847, bronze medal commemorative of the 50th anniversary of the Aztec Club, October 13, 1897, and medal and button of the Order of Indian Wars of the United States, which belonged to Capt. Allyn Capron, First U. S. Artillery (55189: loan).

CARNEGIE HERO FUND COMMISSION, Pittsburgh, Pa.: Titanic memorial, consisting of the gold medal awarded by the Commission and of a bronze tablet supporting it, bearing the resolution adopted by the Commission, with reference to the acts of heroism performed in connection with the sinking of the S. S. *Titanic* (54893).

CARNEGIE INSTITUTION OF WASHINGTON: 52 living specimens of Cactaceæ from Walter Mundt (54410); 37 living specimens of Cactaceæ from California (54411, 55509, 55548, 55576), 3 living specimens of *Sedum* from Santa Catalina Mountains, Ariz. (54731), and 3 living specimens of Cactaceæ from Arizona (55278), all collected by Dr. D. T. MacDougal; 20 living specimens of *Opuntia*, collected by Dr. MacDougal and Dr. W. A. Cannon in California (55473, 55509); 450 archeological objects, mainly from a cave in Washington County, Md., collected by J. D. McGuire prior to 1905 (54446); 199 archeological specimens, mainly from an aboriginal quarry site in Carter County, Ky., collected by Gerard Fowke prior to 1905 (54447); 32 specimens of madreporarian corals from Florida Keys, transmitted by the Marine Biological Laboratory at Dry Tortugas, through Dr. T. Wayland Vaughan (54481); 465 plants, including living specimens of Cactaceæ, from Kansas and Colorado (54633, 54702), and 17 living specimens of Cactaceæ from Europe (54705), all obtained by Dr. J. N. Rose; 9 living specimens of *Opuntia*, collected by A. Ruth in the northeastern part of Texas (54700); 3 living specimens of Cactaceæ, received from the New York Botanical Garden (54733); 12 living specimens of Cactaceæ, collected by Mrs. Irene Vera near San Luis Potosi, Mexico (55039); 35 photographs illustrating results achieved in lines of investigation carried on under the direction of Prof. George E. Hale, Mount Wilson Solar Observatory, Pasadena, Cal., and transmitted by that observatory (55092); 25 living specimens of Cactaceæ, collected by Padre

CARNEGIE INSTITUTION OF WASHINGTON—Continued.

- M. Fuertes near Barahona, Santo Domingo (55272); 10 living specimens of Cactaceæ, collected in the Grand Canyon of the Colorado, Ariz., by Dr. Forrest Shreve (55620).
- CARNEGIE MUSEUM, Pittsburgh, Pa. (through Philip P. Calvert): 38 neotropical dragonflies (54324: exchange).
- CARPENTER, WILLIAM D., Salisburypoint, Amesbury, Mass.: 10 bird skins from Sayre, Pa. (54368); bat, *Myotis lucifugus* (54542).
- CARTER, N. E., Elkhorn, Wis.: 3 fake specimens, representing a hematite plummet from St. Charles County, Mo., a hematite ceremonial from Indiana or Missouri, and a copper fishhook from Wisconsin (55531).
- CARTER, RALPH E., Naskeag, Me.: One skull each of red fox, weasel, porcupine, and rabbit (54367: purchase).
- CASE, Mrs. F. E., Canton, Ohio: Specimen of *Monotropis* from North Carolina (54376); 66 plants from Ohio (54619; 54740).
- CATLIN, Mrs. ROBERT, New York City (through Brig. Gen. William H. Fordwood, U. S. Army, retired): Skull of a "Flathead" Indian (55523).
- CELESTINE, Brother, Ancon, Canal Zone: 105 plants from Panama (55017; 55252).
- CENTURY COMPANY, New York City: 36 copies of the decorations by Frank Vincent Du Mond for "The Grapes of Eshcol," published in the "Century," November, 1912. Rubber offset work (55606).
- CHADWICK, Miss JULIA HALSTED, Washington, D. C.: An oil painting entitled "The Lace Maker," after Terburg (55528).
- CHAFFEY, ELWOOD, Lerdo, Durango, Mexico: 12 living specimens of Cactaceæ from Mexico (54269).
- CHAILLAUX, J. BRUCE, Orleans, Ind.: 2 salamanders from Indiana (55492).

CHAMBERS, B. L., U. S. National Museum: Winter wren, *Nannus hiemalis* (55249).

CHAMPLAIN, A. B., Harrisburg, Pa.: 60 specimens of Hymenoptera and 3 specimens of Coleoptera (54990).

CHANDONNET, Rev. Z. L., Perham, Minn.: 13 plants from various localities (54438); 33 plants from Minnesota (54448; 54653).

CHANUTE, LEON F., Shreveport, La.: Specimen of walking-stick, *Diapheromera femorata* (55024).

CHAPMAN, Mrs. E. M., Washington, D. C.: Chapeau given by Lieut. Gen. Winfield Scott, U. S. Army, to Brevet Maj. Gen. Edward Davis Townsend, U. S. Army (54369); a white kid glove of the style worn by those who entertained Gen. Lafayette in Boston during his visit to the United States in 1824-25 (54393).

CHAPMAN, ROBERT H., Washington, D. C.: Specimens of chalcedony from Brighton, England, and agate pebbles from Devon River, Scotland (54866).

CHASE, Mrs. AGNES, Bureau of Plant Industry, Washington, D. C.: 11 plants from the eastern part of the United States (54534).

CHASE, BENJAMIN F., American consul, Leeds, England: An Irish $\frac{1}{4}$ penny of the time of James I (1603-1625); Irish $\frac{1}{4}$ penny of the time of Charles I (1625-1648), found under the castle ruins at Knaresborough, Yorkshire, England (55507).

CHATARD, Dr. THOMAS M., Washington, D. C.: Portrait of Henrietta Maria, by Janssens; portrait of Mrs. Rous, by Sir Peter Lely; and portrait of Mrs. Nicholas Bosley, of Hayfields, Md., by Thomas Sully (55415: loan).

CHEESEMAN, W. C., Slippery Rock, Pa.: 2 plants from Pennsylvania (54540).

CHEKAL, F. C., Holbrook, Ariz.: 4 meteoric stones from a fall of July 19, 1912, near Aztec, 6 miles east of Holbrook (54451).

- CHENEY BROTHERS, New York City: Silk fabrics, raw silk, and specimens illustrating processes in the manufacture of spun silk yarn (55080).
- CHETWOOD, ROBERT E., New York City: Pair of telegraph-pole climbers used prior to 1848 (55236).
- CHUCK, THOMAS, Toledo, Iowa: Sacred bundle of the Fox Indians, collected by Dr. Truman Michelson (55002: purchase).
- CHUNG, Dr. W. F., Chinese Legation, Washington, D. C.: Bat, *Eptesicus* (55093).
- CLAGUE, W. H., Kalispell, Mont.: Moth, *Lychnosea helviolaria* (54420).
- CLAFF, GEORGE H., Pittsburgh, Pa.: 28 specimens of *Polygyra andrewsi* from Roan Mountain, N. C. (55158).
- CLAFF, W. F., Museum of Comparative Zoology, Cambridge, Mass.: About 100 specimens, representing 10 species, of marine shells from Sanibel Island, Fla. (54621).
- CLARK, AUSTIN H., U. S. National Museum: 99 bird skins from various localities (54561); specimen of *Melitta superba* from Newtonville, Mass. (54991); specimen of *Peripatus (Epiperipatus) trinidadensis* and one of *P. (Peripatus) juanensis* (55317).
- CLARK, HERBERT A., U. S. National Museum: Ruby-throated hummingbird, *Archilochus colubris* (54500).
- CLARK, HERBERT E., Jaffa Gate, Jerusalem: 19 sections of two flint sickles found in the debris of Ancient Gezer, Palestine (55598).
- CLARK, Miss MAY, Washington, D. C.: Woven belt of a Pueblo woman (55142: purchase).
- CLARKE, Dr. F. W., U. S. Geological Survey, Washington, D. C.: Specimen of corundum showing parting (54578).
- CLARKE, J. PAUL, West Palm Beach, Fla.: 2 specimens of "horsehair worms," *Gordius* (54749).
- CLELAND, Prof. H. F., Williams College; Williamstown, Mass.: Specimen of calcite coated with quartz (54668: exchange).
- CLEMENTS, CHARLES, Boston, Mass.: A five-inch cube of Killarney green granite (54546).
- COCHRANE, C. R., Lakeview, Idaho: Moth, *Samia rubra* (55544).
- COCKERELL, Prof. T. D. A., University of Colorado, Boulder, Colo.: 9 specimens of Hymenoptera and 1 of Lepidoptera, including cotypes of 4 species of Hymenoptera (54387); 38 plants from New Mexico (54405; 54890); 5 living specimens of *Opuntia* from New Mexico, and 2 photographs (54533); 7 living specimens of *Opuntia* from near Boulder (54706); 50 insects from the United States and Central America (54719); 9 living specimens of *Opuntia* (54900); 5 fossil insects, including 3 type specimens (55074); 31 insects (55274); 3 type slides of parts of *Peripatus biolleyi betheli* (55316); about 145 insects on 20 slides, 11 of the latter being type specimens (55370); type specimen of *Pseudomasaris vespoides robertsoni* (55123); microscopic slide with jaw and radula, type of *Philomyscus secretus* from North Carolina (55329).
- COCKERELL, Mrs. T. D. A., Boulder, Colo.: Type specimen of fossil bee (54397).
- COLE, H. E., Baraboo, Wis. (through Charles D. Walcott): A specimen of the fossil worm burrow, *Arenicolites woodi* (54669).
- COLEGIO DE SAN IGNACIO, Medellin, Colombia: 200 plants from Colombia (55076: exchange).
- COLES, RUSSELL J., Danville, Va.: Fishes from Cape Lookout, N. C. (54435).
- COLLEGE OF MINES. (See under Leoben, Styria, Austria.)
- COLLINS, FRANK S., Malden, Mass.: 50 specimens of algae from North America, *Phycotheca Boreali-Americana*, Fascicle 38 (55061: purchase).

COLORADO, UNIVERSITY OF, Boulder, Colo.: 3 plants collected in New Mexico by W. W. Robbins (55374).

COMEAU, N. A., Godbout, Quebec, Canada: Specimen of holothurian, *Cucumaria frondosa*, from Godbout (54758).

COMMERCE, DEPARTMENT OF:

Bureau of Fisheries: 2 specimens of Medusæ from the coast of Maine (54362), a keg of jellyfishes from the mouth of Casco Bay (54766), a box of jellyfishes and pteropods from the Gulf of Maine (55072), 28 vials and bottles of invertebrates (55618), and 2 boxes of plankton specimens comprising mollusks and other invertebrates from the Gulf of Maine (55165), collected by the *Grampus* during the summer of 1912 and received through Dr. H. B. Bigelow. Head and tail of bottle-nosed whale, type of *Mesoplodon mirum*, new species, from Bird Island Shoal, Beaufort Harbor, N. C. (54403); large collections of types and paratypes of fishes, collected in 1906 in Japan and the northern Pacific by the *Albatross*, a few types of fluvial fishes from California, and a specimen of stomatopod from Japan (54484); 108 skeletons of birds and 3 skeletons of the house mouse, from St. Paul Island, Pribilof Group, Alaska (54504); 14 boxes of miscellaneous specimens of mollusks and 154 packages of marine invertebrates, collected on the *Albatross* cruise to Mexico in 1911 (54576; 54588); a full-length pastel portrait of Prof. Spencer F. Baird, by D. E. Collins (54609); part of the type specimen of *Primnodendron superbum*, collected during the cruise of the *Albatross* in the northwest Pacific in 1906 and described by Prof. C. C. Nutting (54627); 4 boxes of echinoids, asteroides, etc., from the Pacific Ocean, and a figured specimen of *Heterocentrotus mamillatus* from Honolulu, collected by the *Albatross* and described by Dr. Hubert Lyman Clark (54656); 2 crustaceans taken from *Phallusia* at Station 2945, southern California, cruise of the *Albatross* in 1904 (54674); 2 frogs from Alaska, collected by Lee R. Dice, deputy warden, Alaska Fisheries Service (54745); 167 lots of ascidians col-

COMMERCE, DEPARTMENT OF—Contd.

lected by the U. S. Fish Commission from 1871–1887, inclusive, named by Dr. W. G. Van Name, and formerly in the custody of Prof. A. E. Verrill (54773); mammals, fishes, invertebrates, and plants, from St. Paul Island, Alaska, collected in 1910–1912 by M. C. Marsh and W. L. Hahn (54778); 348 mounted slides of Foraminifera from the Philippine cruise of the *Albatross*, 1907–1910, received through Dr. Joseph A. Cushman (54783); 700 vials of Schizopoda collected by the *Albatross* in 1899–1900 and 1904–1905 and described by Dr. H. J. Hansen in *Memoirs of the Museum of Comparative Zoology*, Vol. 35, No. 4, July, 1912 (54843); 6 parasitic isopods collected in Japan by Dr. Jordan and Dr. Snyder (54892); the type and 11 additional specimens of a flounder, *Pseudopleuronectes dignabilis*, collected by steam trawlers on Georges Bank, through the courtesy of John R. Neal (54959); skin of a large California sea bass, *Atractoscion nobilis*, collected near Quadra Inlet, opposite Mary Island, Alaska (55016); 6 types of jellyfishes collected by the *Albatross* in the northwest Pacific in 1906 (55072); mammals and birds from Celebes, Borneo, etc., collected by Roy C. Andrews on the *Albatross* expedition of 1909–1910 and received through the American Museum of Natural History (55162); type and paratype of *Hadropterus sellaris* from Swan Creek, Md. (55166); a series of 137 bird eggs and 2 nests from the Pribilof Islands, collected by James Judge and M. C. Marsh in 1911 and 1912 (55190); 986 specimens of echinoderms (including 5 type specimens) collected by the *Albatross* on the west coast of Mexico in 1911 and described by Dr. H. L. Clark (55292; 55337); 2 parkas obtained by deputy fur warden G. Dallas Hanna from Indians near Bethel, Alaska (55389). (See under Smithsonian Institution, Smithsonian Biological Survey of the Panama Canal Zone.)

Bureau of Foreign and Domestic Commerce: Samples of foreign fibers, yarns,

COMMERCE, DEPARTMENT OF—Contd.

textiles, etc., and a sample of Mexican ocotillo wax, collected by American consuls and special agents of the Department of Commerce (55643).

Coast and Geodetic Survey: About 45 skins and skulls of mammals and a few birds and plants, collected by the Alaska Boundary Commission in northern Yukon and Alaska and received through Thomas Riggs, jr. (54907).

COMMERCIAL MUSEUM, Philadelphia, Pa.: Wood samples and specimens of raw silk (54594).

CONGRESS, LIBRARY OF. (See under Return Jonathan Meigs, No. 4.)

CONSERVATION COMMISSION, Albany, N. Y. (through Tarleton H. Bean): 21 specimens of *Unio complanatus* from New York (54614); collection of white-fishes, ciscoes, etc.; also a leech, *Hæmopsis marmoratus*, found parasitic on one of the fishes (55154); fishes, snails, crustaceans, and amphibian eggs (55581).

CONZATTI, DR. C., Oaxaca, Mexico: 9 living specimens of Cactaceæ from southern Mexico (54461); fruit of plant from Cerro de Tlacolulu, Mexico (54594); living specimen of *Mamillaria karwinskiana* from Mexico (54628); 20 living specimens of Cactaceæ from the southern part of Mexico (54709; 55550: exchange); 11 living specimens of Cactaceæ (54734; 55040: exchange); 14 specimens of Cactaceæ from Mexico (55429: exchange); 13 specimens (2 living) of Cactaceæ from Mexico (55476).

COOK, O. F., U. S. Department of Agriculture, Washington, D. C.: Specimen of *Tomocychus gealii* from Guatemala (54357); 177 plants from Costa Rica (54957).

COOLEY, MRS. C. C., Baltimore, Md.: Waistcoat worn by C. C. Cooley at a reception given in Dayton, Ohio, to William Henry Harrison, 1840 (54727).

COOLDGE, MISS HELEN E., Washington, D. C.: 3 Lowestoft plates and 2 East India cups (Chinese) (55116); cup and saucer of Spode ware (England) (55117: loan).

COPENHAGEN, DENMARK, UNIVERSITETS BOTANISKE MUSEUM: Specimen of *Lycopodium* from Brazil (55062: exchange).

COPENHAGEN, DENMARK, UNIVERSITETS ZOOLOGISKE MUSEUM: Specimen of *Raja hyperborea* (54418).

COPP, FRANCIS W., Meredith, N. H.: Crayfish from Lake Winnipisaukee (55453).

CORN PRODUCTS REFINING COMPANY, New York City: 34 specimens of corn products (54818).

CORREYON, H., Geneva, Switzerland: Living specimen of *Opuntia xanthostemma* and one of *O. rhodantha*, with seeds (55458: exchange).

COSTA RICA-PANAMA BOUNDARY ARBITRATION COMMISSION, San José, Costa Rica: Fossils from the Tertiary of the Canal Zone, collected by D. F. MacDonald (54599: collected for the Museum).

COTTMAN, MRS. J. HOUGH. (See under Mrs. John Southgate Tucker.)

COWDRY, N. H., Waterford, Ontario: 30 specimens of Canadian Silurian and Devonian fossils (54810).

COWLES, HENRY T., Rio Grande, P. R.: 21 ferns from Porto Rico (55480).

CROFT, SAMUEL M., Library of Congress, Washington, D. C.: A collection of South American butterflies (54870).

CROOKES, SIR WILLIAM, London, England (through George F. Kunz): A spinthariscope (55411).

CROPPER, MRS. JOHN, Orleans, France: A bronze cannon used during the War of the American Revolution, together with the carriage for the cannon (54996).

CROSBY, C. R., Cornell University, Ithaca, N. Y.: Male and female paratype of *Eurytoma rhois* (54869).

CULBERTSON, GLENN, Hanover College, Hanover, Ind.: Fossil from Jefferson County, Ind. (54361).

CULIN, STEWART. (See under Baron Senge.)

- CUMMINGS, Mrs. S. E., Washington, D. C.: A collection of laces, brocades, card-cases, costumes, jewelry, fans, etc. (55589).
- CUSEMAN, Mrs. ALLERTON S., Washington, D. C.: Remains of a clasp worn by Mrs. Sarah Scott Siddons while playing in "Macbeth," presented to Miss Charlotte Cushman by Mrs. Fanny Kemble (55335: loan).
- CUTLER, H. S., Kanab, Utah: Specimen of velvet ant, *Dasymutilla gloriosa* (55022).
- CUTLER, W. E., Brooks, Alberta, Canada: Distal half of femur, in 3 pieces, and portion of tibia of a fossil reptile (54715).
- DAHLEM BEI STEGLITZ, KÖNIGL. BOTANISCHER GARTEN UND BOTANISCHES MUSEUM. (See under Berlin, Germany.)
- DALL, Dr. WILLIAM H., U. S. Geological Survey, Washington, D. C.: 31 photographs of natives of southern India, collected by the Rev. C. H. A. Dall (54764); framed photographs, oil paintings and water colors (55214); photographs representing 26 ethnological subjects and 97 European views (55336).
- DANIEL, J. W., Washington, D. C.: A pair of pistols and a "C. S. A." single-action revolver with holster and belt (55095: loan).
- DAVIDSON, Dr. A., Los Angeles, Cal.: Specimen of *Brassica* from California (54380).
- DAVIDSON, Capt. A. H., U. S. Army, Anapra, N. Mex.: Skin of white-faced glossy ibis, *Plegadis guarana*, in immature plumage (54585).
- DAVIS, ARCHIBALD, Bayard, N. Mex.: 3 pieces of opal in rhyolite (55224).
- DAY, BEN, INC., New York City: Ben Day machine for rapid shading, etched plates produced with the aid of the machine, and specimens of Ben Day rapid shading medium work from the plates, showing progressive stages of production of color design (55416).
- DEAM, C. C., State Board of Forestry, Indianapolis, Ind.: 4 plants from Indiana (55210: exchange).
- DE HAVEN MANUFACTURING COMPANY, Brooklyn, N. Y.: 6 lots of sample ring travelers for spinning frame (54453).
- DENNISON, W. E., San Francisco, Cal.: Specimen of roscelite from Uniontown, Cal. (54493).
- DENSMORE, Miss FRANCES, Red Wing, Minn.: Collection of Chippewa Indian ethnological objects (55524: purchase).
- DENYS, Rev. F. WARD, Washington, D. C.: 2 oil paintings, "Madonna and Child" by Perugino and "Saint Michael" by Guido Reni; also a Persian rug said to be after a design by Raphael (54980: loan).
- DEPARTEMENT VAN DEN LANDBOUW. (See under Paramaribo, Surinam.)
- DE SELM, ARTHUR W., Kankakee, Ill.: Specimen of *Sphaeralcea* from Illinois (54607).
- DEVOR, E. H., Mercersburg, Pa.: Ring sundial bearing the name of the maker and the date 1640 (55066: purchase).
- DICKINS, Mrs. F. W., Washington, D. C.: Collection of plates, pitchers, etc., with historical scenes (55150: loan); Pomo Indian basket (55259).
- DINSMORE, JOHN E., The American Colony, Jerusalem, Palestine: 70 "Bible plants" from Palestine (54381: purchase).
- DISBROW, Dr. WILLIAM S., Newark, N. J.: 13 specimens of zeolites and one of leucophoenicite, from New Jersey; and 25 concretions from Windsor, Conn. (54492: exchange); photograph of a group of uncut diamonds (54811).
- DODD, ALAN P., Nelson, Cairns, North Queensland, Australia: 10 Coleoptera from Australia (55279).
- DOLBEAR, C. E., Berkeley, Cal.: 4 crystals of halite, 1 of thenardite, and 2 of hanksite, from Searles Lake potash deposit, San Bernardino County, Cal. (55069).

- DOMINION MARBLE COMPANY, LIMITED,** Montreal, Quebec, Canada: A six-inch cube of marble (54286).
- DOTY, CHARLES E.,** Hamilton, Ohio: About 300 negatives of Cuban and Filipino subjects (54342).
- DOUGLASS, WILLIAM B.,** General Land Office, Washington, D. C.: Collection of cliff-dwelling material from the Navaho National Park, Ariz. (55395: loan).
- DRAPER COMPANY,** Hopedale, Mass.: Old loom reed; and self-threading shuttle, model 933 (55105).
- DUBLIN, IRELAND, DEPARTMENT OF AGRICULTURE AND TECHNICAL INSTRUCTION FOR IRELAND (FISHERIES BRANCH):** 2 type specimens of crinoids, *Atelecrinus helge* and *Trichometra hibernica* (54334).
- DUMONT, FRED'K. T. F.,** American consul, Madrid, Spain (through Department of State): 13 Carib hatchets and axes from Guadeloupe, F. W. I., collected by the donor (54563).
- DUNCAN, Miss F.,** Glen Carlyn, Va.: Specimen of myrtle warbler, *Dendroica coronata*, from Virginia (55350).
- DUNN, E. R.,** Alexandria, Va.: Water-snake from Virginia (55328).
- DURBAN, NATAL, DURBAN MUSEUM:** 2 skeletons (with skulls) and 3 skulls of dolphins (55540: exchange).
- DUVALL, CHARLES F.,** Aguila, Ariz.: Moth, *Hemileuca juno* (54748).
- EBBS, Mrs. FLORENCE A.,** Washington, D. C.: 2 pieces of sculpture in marble, Cordelia, attributed to Harriet Hosmer, and Emeralds, by Romanelli (54643: loan).
- EGBERT, Dr. J. HOBART,** Superintendent, Medical Department, United Fruit Company, Santa Marta, Colombia: 43 mosquitoes from Colombia (55242); 339 Diptera and other insects from Colombia (55640).
- EGGLESTON, W. W.,** U. S. Department of Agriculture, Washington, D. C.: 3 specimens of *Crataegus* from South Dakota (54595); 45 specimens of *Crataegus* collected by C. C. Deam in Indiana (55255).
- EGYPT EXPLORATION FUND,** London, England (through S. W. Woodward, Washington, D. C.): 70 objects of antiquity from Abydos, El Mahasna, Taieba and Deir el Bahari (54593).
- ELLIS, Miss CHARLOTTE C.,** Placitas, N. Mex.: Specimen of cactus from New Mexico, received through Prof. E. O. Wootton (54457).
- ELLIS, Mrs. WILLIAM M.,** Shawsville, Va. (through Mrs. Julian James and Mrs. R. R. Hoes, Washington, D. C.): Dress worn by the wife of President John Tyler when presented at the Court of Louis Philippe, about 1843 (54460: loan).
- ELMER, A. D. E.,** Manila, P. I.: 1991 plants from the Philippine Islands (54738: purchase).
- ELY, Dr. C. R.,** Gallaudet College, Kendall Green, Washington, D. C.: 12 parasitic Hymenoptera bred from *Lithocolletes propinquella* (54390).
- EMMONS, Dr. A. B.,** Marion, Mass.: Anatomical specimen (54346).
- ENGELHARDT, GEORGE P.,** Brooklyn, N. Y.: 8 specimens of Sesiidæ (55120).
- ENO, Mrs. WILLIAM PHELPS,** Washington, D. C. (through Mrs. James W. Pinchot, Washington, D. C.): A piece of point d'Angleterre lace (55521).
- ENTWISLE, W. B.,** Alexandria, Va.: 25 roughly shaped quartzite arrowpoints and 19 broken blades and arrowpoints, found near Alexandria (55217).
- ESHNAUR, Mrs. W. H.,** Terminal, Cal.: Specimens of *Forreria belcheri* and *Chione fluctifraga*, from shallow water, San Pedro Bay, Cal. (54601).
- ESPOSITER, VARNI COMPANY,** New York City: 11 specimens of gems (54886: purchase).
- EVANS, JOHN D.,** Trenton, Ontario, Canada: 26 specimens of Lepidoptera (55304).
- EVANS, WILLIAM T.,** New York City: 5 paintings in oil, "The Meadow Brook," by Charles Paul Gruppe (54300); "The Mourning Brave," by Edwin Willard Deming (54527); "The Fur Muff," by Robert David Gauley (55113); "Water

EVANS, WILLIAM T.—Continued.

Lilies," by Walter Shirlaw (55218); "Castle Creek Canyon, South Dakota," by Frank De Haven (55525); 2 pastels, "Suffer the Little Children to come unto Me" and "Christ before Pilate," by Otto Walter Beck (54939).

FAHS, R. Z., Edmonds, Wash.: 14 specimens of mollusks from various localities (55498).

FAIRCHILD, DAVID G., U. S. Department of Agriculture, Washington, D. C.: Specimen of Hymenoptera and one of Lepidoptera, from Chevy Chase, Md. (54730).

FALL, MRS. GEORGE W., Nashville, Tenn. (through Mrs. R. R. Hoes, Washington, D. C.): Blue brocade satin dress worn by Mrs. James K. Polk at the White House (55171: loan).

FARMER, ROBERT, Washington, D. C.: Small coiled jar found by the donor five miles east of Zufi, N. Mex. (55505).

FAUVER, W. F., Goldroad, Ariz.: Specimen of *Stagmomantis* (54512).

FAXON, DR. WALTER, Museum of Comparative Zoology, Cambridge, Mass.: 31 photographs of type specimens of crustaceans (54565).

FEDERATED MALAY STATES, FORESTRY DEPARTMENT. (See under Kuala Lumpur.)

FEDERATED MALAY STATES MUSEUMS. (See under Kuala Lumpur.)

FELIPPONE, DR. FLORENTINO, Montevideo, Uruguay: 6 insects, 2 shrimps, 2 algae, 25 reptiles and an egg-case of a shark (55239).

FELT & TARRANT MANUFACTURING COMPANY, Chicago, Ill.: A comptometer (54382).

FEWKES, DR. J. WALTER, Bureau of American Ethnology, Washington, D. C.: 7 stone axes (interrupted groove), and a stone ring (tufa), from a compound near Phoenix, Salt River Valley, Ariz. (54400); 4 turtle shells and parts of a fish, from Isle of Pines, Cuba, West Indies (54413: collected for the Museum); 11 sponges from Grand Cayman Island, jurisdiction of Jamaica, British West Indies (54479).

FIELD MUSEUM OF NATURAL HISTORY, Chicago, Ill.: 37 fishes, representing 10 species, from Costa Rica (54485); 15 ferns from Peru (54848); 2110 plants, chiefly from the northern part of the United States (54901); 2 pieces of meteoric stone, a 106-gram mass of Juvinas, and a 10-gram piece of Petersburg (54974). Exchange. (See under Smithsonian Institution, Smithsonian Biological Survey of the Panama Canal Zone.)

FINLEY, J. P., Washington, D. C.: Mantras from a prayer-wheel, Tibetan (54797).

FISHER, GEORGE L., Houston, Tex.: 192 plants chiefly from Texas (54379; 54618; 54885; 55375).

FITZGERALD, HARRINGTON, Philadelphia, Pa.: Oil painting, "The Wreck," by Harrington Fitzgerald (55518).

FLETCHER, MRS. L. C., Washington, D. C.: 4 Aleut baskets (55262); a collection of 99 specimens of basketry, beadwork, etc. (55397: loan).

FLORIDA, UNIVERSITY OF, AGRICULTURAL EXPERIMENT STATION, Gainesville: 10 paratypes of *Cryptothrips floridensis* (55339).

FOLEY, E. H., Rutland, Vt.: Block of fuchsite marble (54511).

FOOTE, MRS. KATE N., Washington, D. C.: Commissions, copies of resolutions, certificates of membership and other documents which belonged to Rear Admiral A. H. Foote, U. S. Navy, and to his son, Capt. Augustus R. S. Foote, U. S. Army (54781: loan).

FOOTE MINERAL COMPANY, Philadelphia, Pa.: Piece of the St. Michel meteoric stone weighing 625 grams (55343); 2 specimens of minerals (54737). Exchange.

FORBES, F. F., Brookline, Mass.: 28 specimens of *Salix* from Massachusetts (55266).

FORSYTH, The Misses, Kingston, N. Y. (through Mrs. R. R. Hoes, Washington, D. C.): Dress of golden-brown striped silk and an apron of embroidered white null which were worn about 1760 by Mrs. Cornelius Wynkoop of New York;

FORSYTH, The Misses—Continued.

calash of Mrs. Severyn Bruyn of Kingston, N. Y., made of black China silk and worn about 1800; dress of pale green China crêpe, collar of broad, round piece of white mull with richly embroidered border edged with lace, and a hat of coffee-colored silk, worn by Miss Mary Catharine Bruyn, of Kingston, within the years 1835–1840 (55149: loan).

FORWOOD, Brig. Gen. WILLIAM H., U. S. Army (retired), Washington, D. C.: 5 seeds, chiefly of palms (55539).

FOSTER, A. S., Gate, Wash.: 48 plants from Washington (54274).

FOSTER, E. J., Mosheim, Tex.: The upper mouth-plate of a fossil pycnodont fish from Hamilton County, Tex. (54757: purchase).

FOX, Dr. CARROLL, Bureau of Health, Manila, P. I.: 19 specimens of rats and mice, from the Philippine Islands (54919).

FRANZEN, J. W., Minneapolis, Minn.: 4 specimens of Lepidoptera, *Eurymus eurytheme* (55053).

FREEMAN, Miss ISABEL C., and Mrs. B. H. BUCKINGHAM, Washington, D. C.: Collection of shawls and scarfs, Chinese and Japanese embroideries, Japanese arms and armor, lacquers, fans, etc. (55382).

FREEMAN, NATHANIEL, Washington, D. C.: Booklets, cards, a letterhead, a newspaper and a bank-note, 21 specimens (55603).

FRENCH CREEK GRANITE COMPANY, St. Peters, Pa.: A five-inch cube of granite (54545).

FRICK, CHILDS, New York City: About 20 specimens of fresh-water crabs and 5,292 bird skins, collected on the Childs Frick expedition to Abyssinia and British East Africa (54977; 55019).

FRIEDMAN, JOHN L., C. Victoria, Tamulipaa, Mexico: Grass, *Andropogon annulatus*, from Mexico (54440).

FRIERSON, L. S., Frierson, La.: 6 specimens, representing 2 species, of *Nephronias* from Guatemala, Atlantic drainage (55178).

FRIESE, Dr. H., Schwerin, Mecklenburg, Germany: 218 specimens of bees of the family Meliponidae (90 of which are cotypes) comprising 106 forms (55319: purchase).

FRIITSCHLE, Dr. W. E., Olney, Ill.: Specimen of king rail, *Rallus elegans*, from Olney (54851).

FUCHS AND LANG MANUFACTURING COMPANY, New York City: 3 books, "Machinery," "Lithographers Supplies," and "The Invention of Lithography," published by the donors, 43 half-tone reliefs of lithographic machinery, picture of the bronze bust of "Aloys Senefelder, Inventor of Lithography, 1771–1834" (printed in 1910), and 9 bottles of litho varnishes (55192); a set of progressive lithographic proofs of the front and back covers of "The National Lithographer," lithographic cover for "The National Lithographer," and a copy of the magazine "The National Lithographer" (55384).

FUENTES, Prof. F., Museo Nacional, Santiago, Chile: 13 specimens of grasses from Chile (55108).

FULTON, RICHARD, Laurel, Md.: Skin of *Marmota* from Simpsonville, Md. (55426).

FUNG, Dr. H. K., U. S. Department of Agriculture, Washington, D. C.: 4 specimens of *Blarina* and 2 of *Peromyscus*, from New Hampshire (54664).

FURNISS, Miss CLEMENTINA, New York City (through Mrs. Julian James): Japanese lady's court dress, together with manikin for mounting (55006); a dress made to represent one belonging to the wife of Henry III of France, a Norwegian peasant's bridal dress, a Chinese lady's embroidered dress (jacket and skirt), a Japanese wig for court costume, a small Japanese lacquered comb, and 3 manikins (55184).

- GAILLARD, Mrs. KATHERINE, Washington, D. C.: Living specimen of cactus collected in the Canal Zone (55424).
- GARDNER, J. H., Hopewell, Pa. (through David White): A fossil plant stem, *Calamites* cf. *rameri*, from near Hopewell (54767).
- GARE, S. H., Ridgely, Tenn.: Mole cricket, *Gryllotalpa borealis* (55023).
- GARMAN, Prof. H., State University of Kentucky, Lexington, Ky.: 2 crayfishes, *Cambarus subterraneus* n. sp. (55595).
- GARRETT, A. O., Salt Lake City, Utah: 2 living specimens of Cactaceae, *Opuntia fragilis* and *O. polyacantha*, from near Grantsville, Utah (54630).
- GAYNOR, Rev. WILLIAM C., St. Joseph's Abbey, St. Benedict, La.: Arrow-points and other artifacts taken from the Indian middens of St. Tammany Parish, La. (55399).
- GEE, Prof. N. GIST, Soochow University, Soochow, China: 58 copper and 5 brass modern Chinese coins, including coins from the various mints of the Empire, and a coin of the new Republic (54309); 29 canceled Chinese postage stamps (54947); 18 uncanceled postage stamps issued by the Republic of China (55067); 62 copper and 10 brass modern Chinese coins (55567).
- GEORGIA, GEOLOGICAL DEPARTMENT OF THE STATE OF, Atlanta, Ga.: 25 Devonian fossils from the Armuchee chert of Georgia (54671).
- GERRARD, EDWARD, AND SONS, Camden Town, London, England: Skull of *Ovis musimon* (54873: exchange).
- GIFFARD, W. M., Honolulu, Hawaii: 82 wasps (54677).
- GIFFORD, A. S., Copper Hill, Ariz.: 3 specimens of hemipterous insects belonging to the genus *Conorhinus* (54499).
- GILBERT, Dr. C. H., Stanford University, Cal.: Crustaceans from the stomachs of salmon captured between Tacoma and Seattle (55283).
- GILL, G. W., U. S. National Museum: Box tortoise, *Terrapene carolina*, from the District of Columbia (54477); sponges from Pocomoke Sound, Chesapeake Bay, Md. (55109); isopods from Potomac River, Va., one mile above Washington, D. C. (55232); amphipods and isopods from the vicinity of Washington (55251); 6 chipped blades found by the donor just above Chain Bridge, on the Virginia side of the Potomac River (55588).
- GILL, Dr. THEODORE N., Smithsonian Institution: 14 photographs of scientists (54347).
- GILLETT, EDWARD, Southwick, Mass.: 5 living specimens of *Opuntia* from Pennsylvania (55460: exchange).
- GILMAN, M. FRENCH, Sacaton, Ariz.: 2 living specimens of *Opuntia spinosior*, from near Sacaton (55446).
- GIRAULT, A. A., Nelson Cairns, North Queensland, Australia: 4 cotypes of *Padagrion beneficium* (54867).
- GIST, F. E., San Francisco, Cal.: Collection of 70 archeological and ethnological specimens from California (55608: purchase).
- GLASGOW, J. P., Gainesville, Tex.: Splenial plate of a pycnodont fish from Texas (54846: exchange).
- GODING, FREDERIC W., American consul, Montevideo, Uruguay (through Department of State): About 40 specimens of Diptera (54754).
- GODMAN, F. D., London, England (through Philip P. Calvert): 226 neotropical dragonflies (54329: exchange).
- GOODING, LESLIE N., Bisbee, Ariz.: 421 plants chiefly from Arizona (55440: exchange).
- GOODRICH, Rear Admiral C. F., U. S. Navy, Washington, D. C.: Terra cotta tile taken from an old temple in Burma, India (54813).
- GOODYEAR, NELSON, New York City: Collection of paintings, books, medals, jewelry, and other articles of hard rubber, relating to the invention and application of vulcanized rubber by Charles Goodyear (54840: loan).

- GÖRGES, JULIUS, Düsseldorf, Prussia: 10 specimens of silicified sponges from the Senonian of Halberstadt (54584: exchange).
- GORJANOVIĆ-KRAMBERGER, Prof. Dr., Narodni Muzej, Zagreb, Croatia, Austria: Plaster casts (22 pieces) of ancient human remains, "The Krapina Man," together with casts of six of the stone implements found associated with the skeleton (54826).
- GOTTSCHALL, A. H., Harrisburg, Pa.: Retouched and fake arrowheads, obtained by the donor from a dealer in New Mexico prior to 1913 (55400).
- GRANT, Mrs. FREDERICK DENT, Washington, D. C.: Memorials of Maj. Gen. Frederick Dent Grant, U. S. Army, and of his father, Gen. Ulysses S. Grant, U. S. Army (54682); ethnological, historical, and biological objects collected by Maj. Gen. Grant in various parts of the world (54799); souvenir and presentation silverware, Russian enamel spoons, and three framed photographs of Maj. Gen. Grant (55332).
- GRANT, Maj. Gen. FREDERICK DENT, U. S. Army (through Mrs. Frederick Dent Grant): Carving set of silver and ivory (7 pieces), presented to Gen. Ulysses S. Grant by the people of San Francisco in 1871; and a carving set of silver and ivory (7 pieces), and two dozen dinner knives, of silver and ivory, presented to Gen. Grant in 1869 (55333).
- GRAY, C. K., El Paso, Tex.: Specimen of walking-stick, *Rhabdoceratites covillei* (54526); 3 male and 3 female *Phasmids* and 1 female specimen of *Stagmomantis californica* (54663).
- GRAY, Mrs. JOHN R. (See under Mrs. Mary J. Roach.)
- GREEN, A. E., M. L. A., Parliament House, Perth, Western Australia: Specimens of Western Australian woods (54955: exchange).
- GREENE, CHARLES T., East Falls Church, Va.: 10 specimens of Diptera (54755).
- GREENE, W. MAXWELL, American consul, Hamilton, Bermudas (through Department of State): 44 samples of earth from a well boring in Southampton, Bermudas (54865).
- GRIFFITH, J. M., Orizaba, Mexico: Larva of a moth of the genus *Automeris* (54553).
- GRIFF, C. W., San Diego, Cal.: 4 marine shells, types of new species, from California (54354).
- GRIFF, Mrs. C. W., San Diego, Cal.: 24 specimens of marine shells, representing 6 species, from San Diego (55179).
- GRISWOLD, Miss JENNIE M., Washington, D. C.: Gold bracelet, blue enamel and niello on woven gold band, with inscription on the clasp (54509: loan).
- GRONBERGER, S. M., Smithsonian Institution: Copies of "Jul Kvallen," 1912, and "Midvinter," 1912, containing color prints (54941).
- GUDGER, Dr. E. W., Greensboro, N. C.: Crabs, fishes, and a shrimp, from the Tortugas (54419).
- GUILD, F. N., Green Mountain Falls, Colo.: 2 pieces of volcanic tuff (54384).
- GYRO MOTOR COMPANY, Washington, D. C.: Aeroplane engine devised by Emile Berliner and used in his aeronautical experiments in the winter of 1907-08 (55168).
- HAAGE, F. A., jr., Erfurt, Germany: 2 living specimens of Cactaceæ (55035: exchange).
- HAAGE AND SCHMIDT, Erfurt, Germany: 3 living specimens of Cactaceæ (54409); living specimens of *Echeveria* and *Sedum* (54699); 4 living specimens of Cactaceæ (55041: exchange).
- HABERER, Prof. A., Bad Griesbach, Germany: Skull of a Negro from South Kamerun, Africa, showing nasal anomaly (lower jaw missing) (55025).
- HABERER, Dr. J. V., Utica, N. Y.: 155 plants from New York (55351).
- HAGERMAN, H. J., Roswell, N. Mex.: 4 fossil mammal teeth (55571).

- HALBACH, EDWIN, Washington, D. C.: Specimen of pine-mouse, *Pitymys pineporum scalopsoides* (55642).
- HALE, WALTER, St. Cloud, Fla.: Skull of *Sciurus niger* (54837).
- HALLIDAY, WALTER L., New Britain, Conn.: 2 coupling links and pins (55390).
- HAMILTON, DR. ALLAN McLANE, New York City: 4 early American chairs, 2 of which belonged to Maj. Gen. Philip Schuyler and 2 to Alexander Hamilton (54690: loan).
- HAMILTON, MRS. MAY C., New York City (through Dr. Allan McLane Hamilton): 2 side tables which belonged to Alexander Hamilton (55607: loan).
- HANBURY, LADY KATHERINE A., La Mortola, Ventimiglia, Italy: 43 living specimens of Cactaceæ (54406; 55032; 55497); specimen of *Opuntia cholla* grown from a part of Weber's type (55291); 2 specimens of *Opuntia cholla* (55467). Exchange.
- HANNIBAL, HAROLD, Stanford University, Cal.: 32 specimens of marine shells, representing 13 species, from Puget Sound and California (55245); 25 specimens of marine shells, representing 6 species, from Alaska, Washington and California (55303); Tertiary fossils, representing 9 species, from the Upper Pliocene "Elk River beds," at the mouth of Elk River at Port Orford, Ore. (55449).
- HARDY, I. B., Santa Barbara, Cal.: 51 specimens of *Cypræa* from Honolulu (54637: exchange).
- HARMER, F. W., Cringleford near Norwich, England: Fossils, representing 3 species, from the Norwich Crag (Pliocene) of Great Britain (54963).
- HARRING, H. K., Bureau of Standards, Washington, D. C.: 142 microscopic alides (139 species) of Rotifera, including 5 new species (54586).
- HARRINGTON, J. P., School of American Archaeology, Santa Fé, N. Mex.: Ethnological material of the Mohave Indians of Arizona, collected by Mr. Harrington (55570: purchase).
- HARRIS, Capt. J. R., U. S. Army, Fort Slocum, N. Y.: Malay manuscript obtained from the Moros, P. I. (55324).
- HARRIS, WILLIAM, Hope Gardens, Kingston, Jamaica: Specimens of Coleoptera (55127).
- HARRISON, Miss CARRIE, U. S. Department of Agriculture, Washington, D. C.: 6 pottery ornaments (heads of vessels) from Mexico; and 2 pottery covers (of canopic jar), Egyptian (54723).
- HARRISON, GEORGE L., jr., Philadelphia, Pa. (See under Wilhelm Schlüter.)
- HARSHBERGER, DR. JOHN W., University of Pennsylvania, Philadelphia, Pa.: Plants from Florida (55079).
- HARTMAN, H. H., Allentown, Pa.: 23 specimens of land and fresh-water shells from Saucon Creek and Lehigh River, Pa.; 4 fossil plants and a specimen of insect borings; also 12 arrow-points from Tennessee, Oregon and Pennsylvania (55198).
- HASBROUCK, E. M. (See under William Palmer and A. C. Weed.)
- HASSE, DR. H. E., Sawtelle, Cal.: 155 lichens from California (54759); 2 specimens of *Dudleya* from near Santa Monica (55621).
- HAWAIIAN RUBBER GROWERS ASSOCIATION, Nahiku, Maui, Hawaii (through Alexander & Baldwin, Ltd., New York City): Specimens of rubber and rubber-tree seeds (54821).
- HAY, DR. O. P., Washington, D. C.: Skull, lower jaw, and 5 cervical vertebrae of a large fossil bison from Alaska (55027: loan).
- HAY, W. P., Washington, D. C.: 3 specimens of Peripatidæ (55318).
- HAYCOCK, ARTHUR, Whitby, Bailey Bay, Bermudas: Shells from the Bermudas (54287).
- HEATH, HAROLD, Stanford University, Cal.: 2 skulls from "Ponce Mound," approximately 4 miles southeast of Palo Alto, Cal. (55281).

- HEDLEY, CHARLES**, Australian Museum, Sydney, New South Wales: 19 specimens, representing 3 species, of marine shells from Australia (55454).
- HEIGHWAY, A. E.**, New York City: 2 specimens of rutile in quartz, 2 of chrysoprase, 1 of pink tourmaline and 1 of manganese (55054); 6 specimens of polished agate (55450); 3 tourmaline crystals and 4 pieces of gem chrysoprase, cut (55451:loan).
- HELLER, Prof. A. A.**, University of Nevada, Reno, Nev.: Specimen of *Abro-nia* from Nevada (54652); 350 plants from Nevada (54786: purchase).
- HENDERSON, JOHN B.**, Washington, D. C.: 36 specimens, representing 4 species, of land shells from the Bahama Islands (54613); type of *Prosopaea argentea*, a land shell from Engano Island, off the southern coast of Sumatra (55220); tank of invertebrates from the Florida Keys (55466); 9 species of Panama marine shells (55559).
- HEER, Prof. ALBERT W. C. T.**, Oakland, Cal.: 82 lichens from California (54277).
- Hess, FRANK L.**, U. S. Geological Survey, Washington, D. C.: Cassiterite (wood tin) from Dawson, Yukon Territory, Canada; and strüverite (tantalo-rutile) from Perak, Federated Malay States (55048).
- HEY, GEORGE G.**, New York City: Skin and one fetus of utia, *Capromys ingrahami*, from the Bahama Islands (54559); 45 pottery vessels from Ecuador (54776: exchange).
- HIGH SPEED RING COMPANY**, Boston, Mass.: 2 high-speed rings, equipped with centering plates and travelers (54501).
- HILDEBRAND, S. F.** (See under Smithsonian Institution, Smithsonian Biological Survey of the Panama Canal Zone.)
- HILL, Mrs. C. ALBERT.** (See under Edward Rutledge Pinckney and Capt. Thomas Pinckney.)
- HILL, THOMAS S.**, Moodys, Okla.: 45 fossils from Oklahoma (55345); about 500 specimens of Carboniferous and Cretaceous fossils and 145 specimens, representing 9 species, of Unionidæ, from Oklahoma (55552).
- HILLIS, E. T.**, Barstow, Cal.: A cube of marble from quarries near Barstow (54793).
- HIORAM, Brother**, Colegio de San Pablo San Juan, P. R.: 61 ferns mainly from Porto Rico (55063; 55167; 55479); 5 specimens of *Cyperus* from Porto Rico (55510).
- HIPPSLEY, Mrs. W. W.**, Valley River, Dauphin District, Manitoba: Land and fresh-water shells, about 50 specimens, from Lake Winnipeg and vicinity (55368).
- HITCHCOCK, Prof. A. S.**, U. S. Department of Agriculture, Washington, D. C.: 12,800 specimens of grasses (including the Scribner herbarium of 8,000 specimens) (55463: purchase).
- HITCHCOCK, ROMYN**, Ithaca, N. Y.: One of the original records, on tape, of the American Rapid Telegraph Company; also a roll of 13 sheets representing "Haniwa" from burial mounds and dolmens in Japan, by a Japanese artist (55059).
- HIXON, HIRAM W.**, Aire Libre, Puebla, Mexico: 2 plants from Mexico (54471; 54608); skin of a raccoon-fox, or cacomistle, *Bassariscus astutus*, from Mexico (54874).
- HOBSON, Mrs. ELIZABETH C.** (through Mrs. Richard G. Lay, Washington, D. C.): Picture representing the tomb of "Mahomet the Gentleman" at Broussa (Turkey-in-Asia), which was painted for Mrs. Hobson by Hamdy Bey in Constantinople in 1884 (54616: bequest).
- HOCHDEFFER, GEORGE**, Flagstaff, Ariz.: 13 living specimens of Cactaceæ from Arizona (55448).
- HODGE, PAUL F.**, Garrett Park, Md.: Specimen of broad-winged hawk, *Buteo platypterus*, from Maryland (54986).

- HOES, Mrs. R. R. (See under Mrs. William M. Ellis, Mrs. George W. Fall, the Misses Forsyth, and Mrs. John Southgate Tucker.)
- HOLDER, CHARLES F., Pasadena, Cal.: The frontal bone, with portions of the parietal bones, of an Indian skull, from a cave on Santa Catalina Island, Cal. (54950: loan).
- HOLLISTER, N., U. S. National Museum: 2 skins of bob white, *Colinus virginianus*, from Virginia (54775).
- HOLLISTER, Mrs. N., Washington, D. C.: 129 plants from Arkansas (55536).
- HOLM, Dr. THEODOR, Brookland, D. C.: Seedlings and rhizomes (alcoholic material) of 9 species of plants from the District of Columbia and vicinity (54570).
- HOLMES, WILLIAM H., U. S. National Museum: Ethnological specimens from Mexico (54835); collograph in color and a photograph of the painting "Midsummer," by Mr. Holmes, in the Corcoran Gallery of Art. Published by the Detroit Publishing Company (54938).
- HOLTZMAN, C. T., Luray, Va.: Specimen of *Orobanch* from Virginia (54521).
- HOOD, J. D., Bureau of Biological Survey, Washington, D. C.: 23 specimens of Hymenoptera from Plummer's Island, Md. (55641).
- HOPE GARDENS, DEPARTMENT OF AGRICULTURE. (See under Kingston, Jamaica.)
- HOPKINS, ALFRED H., Washington, D. C.: A breech-loading gun of English manufacture (54966).
- HOPPE, PAUL, Fairbanks, Alaska: 3 photographs of interlocked moose antlers (54442).
- HORR, Mrs. ELLA L., Worcester, Mass.: Branchiopods, *Eubbranchipus vernalis* (55257).
- HORSTMANN COMPANY, WILLIAM H., Philadelphia, Pa.: 37 specimens of upholstery trimmings (55554).
- HOUGH, Dr. WALTER, U. S. National Museum: An ancient Pueblo vase of large size which was discovered on Leroux Wash, northwest of Holbrook, Ariz., by Frank A. Zuck (54803); stone implements and objects, pottery fragments, etc., from West Virginia, Ohio, and the District of Columbia (54833).
- HOUSE, H. D., Oneida, N. Y.: 140 plants chiefly from the northwestern part of the United States (55297).
- HOUSE, Mrs. H. H., Washington, D. C.: Hair wreath (55201).
- HOWELL, A. B., Covina, Cal.: 49 bird skins from California (54349: exchange).
- HRDLIČKA, Dr. ALEŠ, U. S. National Museum: Vase from Ruin Charachaco ("Black Town"), southern Mongolia, about 1,200 miles southwest of Urga (54825); 18 mammals from Peru (55431); 3 eggs, representing 2 species of tinamous, from Peru (55432); 9 photographs of Jamaican Negroes (55532: purchase).
- HULL, LATHROP W., Oshkosh, Wis.: A telescope rifle (55047: loan).
- HUNGARIAN NATIONAL MUSEUM, BOTANICAL SECTION. (See under Budapest, Hungary.)
- HURTER, JULIUS, sr., St. Louis, Mo.: 2 specimens of horned toad, *Phrynosoma hernandesi* (54831); salamander from Marble Cave, Mo. (55562).
- HUSSEY, Mrs. JOSEPH C., Saratoga Springs, N. Y.: Silver watch, carried during the Civil War by Lieut. Joseph C. Hussey, Tenth Wisconsin Infantry, U. S. Volunteers, and struck by a minié ball while in his pocket at the battle of Perryville, Ky., October 8, 1862 (54502).
- HUTCHINSON, Dr. W. F., Portsmouth, Va.: Skin and skull of a swamp rabbit (55143).
- HUTTON, Dr. S. G., Darien, Ga.: Brown pelican, *Pelecanus occidentalis* (55130).
- HYDE, A. G., & SONS, New York City: 14 1-yard samples of cotton fabrics (54927).
- HYDE, FREDERIC BULKELEY, Washington, D. C.: Banner of Dog Soldier, Osage Indians, Oklahoma (55387).

HYSLOP, J. A., Hagerstown, Md.: Barnacle, *Conchoderma auritum*, from the head of a humpback whale at Ocotea, Wash. (54772).

INDIA, GEOLOGICAL SURVEY OF. (See under Calcutta, India.)

INDIAN MUSEUM. (See under Calcutta, India.)

INGERSOLL, Miss EMMA, Olney, Ill.: Specimen of *Calliostoma tricolor* from Monterey, Cal. (54920).

INGLIS, JOHN, Magnet, Ark.: Specimen of rutile with feldspar and one of brookite with quartz, from Magnet (54491).

INGRAM, AUGUSTUS E., American consul, Bradford, England (through Department of State): A series of specimens illustrating the manufacture and finishing of woollen fabrics as produced in Bradford; mounted on ten cards and prepared by Prof. Aldred F. Barker, Bradford Technical College (55613).

INTERIOR, DEPARTMENT OF:

Skin and skeleton of a male bison, received through the superintendent of the Yellowstone National Park (55215).

Bureau of Mines (through David White): A specimen of anthracite coal showing blister-like cleavage (54506).

U. S. Geological Survey: 51 specimens of minerals (54391); 20 fossil bones, representing titanotheres and creodonts of the White River Group, N. Dak., collected by C. J. Hares; and a small lot of fragmentary vertebrate remains also collected by him from the White River Group, in the Medicine Pole Hills, 12 miles southwest of Bowman, N. Dak. (54425; 55014); 40 drawers of Ordovician fossils collected by E. O. Ulrich and R. S. Bassler in the Central Basin of Tennessee (54498); specimen of native copper and one of sandstone containing native copper, from near La Paz, Bolivia (54650); fossil jaw of *Titanotherium prouti*? collected by N. H. Darton from the White River formation at Deer's Ears Butte, north of Newell, S. Dak. (54716); fossil turtle collected in the Colorado shale on

INTERIOR, DEPARTMENT OF—Continued.

Shoshone River, near Cody, Wyo., by D. F. Hewett (54717); 300 specimens of Silurian invertebrates from the Eastport, Me., quadrangle, including the types of new species described from the Edmunds and Pembroke formations (54718); a small collection of fragmentary fossil reptiles and 2 small lots of fossil fish remains, obtained by W. T. Lee in Colorado (54829); 2 small lots of Cretaceous reptile and fish remains collected from the Judith Project, Mont., by C. F. Bowen (54905); 53 specimens of igneous rocks from the Apishapa quadrangle, Colo., collected principally in 1894 by G. K. Gilbert and assistant, and described by G. W. Stose (54981); fossil tooth of *Hyracodon* or small species of *Cænops*, collected from the White River group about 5 miles northwest of Pretty Rock, N. Dak., by E. Russell Lloyd (55005); a small lot of fragmentary vertebrate remains collected from the Wasatch horizon, N. Mex., by T. W. Stanton and W. T. Lee (55015); 1,952 specimens of invertebrate fossils, consisting of the type, figured, and other important specimens described by Henry Shaler Williams in two papers to be published by the Survey (55028); 8 small lots of fragmentary Cretaceous reptilian remains, collected by Eugene Stebinger and T. W. Stanton in Montana, in and near the Black-foot Indian Reservation (55029); 15 small lots of vertebrate fossils collected by A. L. Beekly and T. W. Stanton in the Walcott quadrangle, southern Wyoming (55098); 35 specimens of *Anodonta beringiana* from a pond in Porcupine Valley, Yukon Territory, five miles northeast of Fort Yukon (55101); 5 specimens of typical phosphate rock from western phosphate fields (55153); a reference collection containing 171 specimens, illustrating Professional Paper No. 77, on the geology and ore deposits of the Park City district, Utah, by J. M. Boutwell; and an additional collection of about 600 duplicates of the same (55172); 65 specimens of rocks from

INTERIOR, DEPARTMENT OF—Continued. the Georgetown quadrangle, Colo., illustrating Professional Paper No. 63 (55233); the gold medal of the Institute of France which was awarded to the Survey in 1891 (55246: deposit); 59 specimens of rocks, illustrating the geology of Mount Greylock, Mass., and two boxes of slates from various localities, collected in connection with the preparation of Bulletin 275 of the Survey (55264); a small collection of fragmentary fossil bones belonging to the Permian reptile *Dimetrodon*, from Tillman County, Okla., obtained by M. J. Munn (55285); 21 boxes of geological material, and stone objects and potsherds of aboriginal manufacture from various localities (55288); 5 hand-specimens and chips of basalt, collected at The Dalles, Oreg., by J. T. Pardee (55293); 22 boxes of rocks, clays, and ores (55362); 271 types and illustrated specimens and about 1,500 duplicates of fossil plants, from the Raton Mesa region of Colorado and New Mexico (55363); the Elliott Cresson gold medal which was awarded by the Franklin Institute of Pennsylvania to the Survey in 1900 (55385: deposit); marble slab secured by T. Nelson Dale from the Vermont Marble Company's quarry at West Rutland, Vt., and 192 specimens of marbles from the eastern part of Vermont, collected by Mr. Dale (55553); 125 specimens of rocks from the Northeastern and Republic Mining Districts of Washington, illustrating a bulletin of the Survey (55563); 451 specimens of rocks and ores from the mining districts of New Mexico, illustrating Professional Paper No. 68 (55564); 255 specimens of rocks, minerals, and ores, collected by C. W. Hayes, F. B. Weeks, E. C. Eckel, and T. Nelson Dale (55572); 12 specimens of rocks and ores from various localities, collected by Waldemar Lindgren and George H. Girty (55580).

ISELY, F. B., Tonkawa, Okla.: 28 specimens, representing 18 species, of *Naiades* from Oklahoma (54591).

ISLER & GUYE, New York City: 52 samples of straw braid, 31 straw body hats and 2 grass cloths (54857).

ISTHMIAN CANAL COMMISSION: Relief map of the Gatun dam and locks and a working model of the Pedro Miguel locks (54318: loan); through Col. Geo. W. Goethals, U. S. Army, Culobra, 2 boxes of Tertiary fossils from various localities in the Canal Zone, collected by D. F. MacDonald (54770); 2 *Cypriodonts* and other small fishes, including species found destructive to mosquito larvæ, from a swamp near Gatun, Canal Zone, received through Dr. S. T. Darling, Ancon (55107; 55444).

JACKSON, Dr. F. W., Jefferson, Me.: 6 eggs (3 sets) of loon, *Gavia immer*, from Maine (55561).

JACKSON, H. H. T., Bureau of Biological Survey, Washington, D. C.: Frog from Wisconsin (54720).

JACKSON, J. WILFRID, Manchester Museum, Owens College, Manchester, England: 2 specimens of *Macandrevia diamantina* from 1410 fathoms off Coats Land, Antarctica (Scottish Antarctic Expedition) (55081).

JACOBSON, EDWARD, The Hague, Holland: 74 isopods from Java (54268).

JACOBS, F. G., Elizabeth City, N. C.: A four-legged and four-winged chick (54337).

JAMES, Mrs. JULIAN, Washington, D. C.: Gilt empire chair, walnut parlor chair covered with crewel work, folding chair made in 1860, and a mahogany inlaid chair (54344); anthropological and biological material from the collections of Theodorus Bailey Myers and Lieut. Commander T. B. M. Mason, U. S. Navy, and Mrs. Mason, including oriental weapons and fabrics, etc., engravings, ceramics, archeological and ethnological specimens, marine shells, corals, sea urchins, etc. (54372: loan); framed photograph of a Korean prince, Min-Yon Ik, framed photograph of a Siamese prince, one length of Japanese brocade, and a square of Chinese brocade (54692: loan); 2 large cloisonné

JAMES, Mrs. JULIAN—Continued.

vases, 7 rings showing development of art, Japanese bamboo flute, 3 Japanese models in tortoise-shell, and a cane made from a piece of the American privateer *George* (54935: loan); 5 India shawls which had belonged to members of the Bailey-Myers-Mason families and which had formerly been lent to the Museum under accession number 11244 (55007); ethnological and art objects; also 4 Delft tile pictures (55008: loan). (See under Mrs. William M. Ellis, Miss Clementina Furniss, Miss L. L. Lander, Edward Rutledge Pinckney, Capt. Thomas Pinckney, Mrs. Presley M. Rixey, and Mrs. John Southgate Tucker.)

JEKYLL, Miss HARRIET, Washington, D. C.: About 500 mineral specimens, presented in memory of her sister, Mrs. Charlotte J. Woods (54689).

JESUP, J. M., Seattle, Wash.: 6 mammals and 4 fishes, from northern Alaska (54673); 2 bird skins from Alaska (54828); about 100 specimens of freshwater and land shells from Yukon Territory and northern Alaska (55102).

JEWELL, FRANK, Binghamton, N. Y. (through Christopher Wren, Plymouth, Pa.): Skull and 2 femurs of a white man from the vicinity of Binghamton (55247).

JIMBO, Prof. K., Imperial University, Tokyo, Japan: 2 specimens of a new radio-active mineral, hokutolite, from Japan (54864; 54942); 21 grams of meteoric stone from Hachiman, Mino Province, Japan (55174: exchange).

JIMÉNEZ, OTÓN, Museo Nacional, San José, Costa Rica: 86 ferns from Costa Rica (54568; 54651); 4 ferns from Costa Rica (54956: exchange); specimen of *Uncinia* from Costa Rica (54741); 2 herbarium specimens from Costa Rica (54785: exchange); 27 specimens of ferns and Cyperaceae from Costa Rica (54923; 55231).

JOCHESON, WALDEMAR, St. Petersburg, Russia: Album of photographs of prehistoric specimens obtained by the donor in excavations of old Aleut village sites and burial caves (55139).

JOHNSON, C. W., Boston Society of Natural History, Boston, Mass.: Specimens of a remarkable blackish variety of *Thais lapillus* from Bass Rocks, Gloucester, Mass. (54600); 8 specimens of Diptera (55065).

JOHNSON, E. C., U. S. S. *Albatross*, Sausalito, Cal. (through Dr. J. C. Thompson, U. S. Navy): 2 lizards and eggs from California (55583).

JOHNSON, FRANK EDWARD, Dresden, Germany: 7 panorama photographs of mountain-climbing Troglodytes and curious dwellings of southern Tunisia, North Africa (54366).

JOHNSTON, Mrs. E. E., Los Angeles, Cal.: 2 specimens of *Trachydermon dentiens* of unusual color, from White's Point, San Pedro, Cal. (55592).

JOHNSTON, Miss FRANCES BENJAMIN, Washington, D. C.: Brass "spider" of English make, 3 baskets from Palestine, and a conjuring package from North Carolina (54936).

JOHNSTON, JOHN R., Rio Piedras, P. R.: 26 ferns from Porto Rico (54976).

JONES, C. H., San Felipe, Campeche, Mexico: 8 eggs of ocellated turkey, *Agriocharis ocellata*, from Campeche (54528).

JORDAN, C. E., Andover, N. Y.: Buprestid beetle, *Dicerca divaricata* (54422).

JORDAN, Dr. DAVID STARR, Stanford University, Cal.: Collection of fishes, including type specimen of *Gnathypops ionis*, collected by Y. Manabe, Yawatahama, Iyo, Japan (55428).

JOSHUA, E. C., Melbourne, Victoria, Australia: 6 specimens of holothurians, *Teniogyrus allani*, and a microscopic slide showing the skin (54728); 18 specimens, representing 2 species, of holothurians (55488: exchange).

JUNG, A. M., Spokane, Wash.: Badge, 1887-1912 Silver Jubilee, Gonzaga College, Spokane (54371).

KAIN, Mrs. C. HENRY, Philadelphia, Pa. (through Albert Mann): The Kain collection of cleaned and dried diatom material from different parts of the

- KAIN, Mrs. C. HENRY—Continued.
United States and foreign countries, contained in 653 vials and 116 boxes (54459).
- KAISERLICHER BOTANISCHER GARTEN.
(See under St. Petersburg, Russia.)
- KANE, CHARLES, Washington, D. C.: A Colt's revolver (55417: loan).
- KANSAS STATE NORMAL SCHOOL, Emporia, Kans.: Specimen of fresh-water sponge, *Heteromeyenia* (*Carterius*) *tubisperma* (55177).
- KATSUNO, S., Tokyo, Japan (through Frank L. Hess): Specimen of wolframite and a specimen of reinite, from Japan (54473; 55049).
- KEARFOTT, W. D., New York City: 8 specimens of Lepidoptera (55126).
- KEARNEY, MORRIS M., Trujillo, Honduras: Specimen of *Securidaca volubilis* from Honduras (55330).
- KEENAN, MICHAEL, Springer, N. Mex.: Specimen of ear-tick, *Otobius megnini* (54525).
- KELLERS, H. C., U. S. Navy, U. S. S. *Albatross*, Sausalito, Cal. (through Dr. J. C. Thompson, U. S. Navy): 6 frogs from California (55582).
- KELSEY, Mrs. ALBERT WARREN, Chestnut Hill, Philadelphia, Pa.: Collection of relics of the Washburn family (55119).
- KENNAN, GEORGE, Baddeck, Nova Scotia: Collection of ancient oriental weapons, consisting of sabers, yataghans, pistols, and guns, etc. (55222: loan).
- KENNEDY, Miss MAY S., Charles Town, W. Va.: Lace veil worn by Miss Harriet Lane at her marriage to Mr. Henry Elliot Johnston (54437: loan).
- KEW, LONDON, ENGLAND, ROYAL BOTANIC GARDENS: 489 plants from the Philippine Islands (54273); specimen of *Lycopodium lindenii* (54290). Exchange.
- KEYSER, E. W., Washington, D. C.: Hupa woman's basket hat, fine small Pima basket, Zuffi wooden figurine, and 2 models of Philippine fish spears (54308: exchange).
- KIMBER, SIDNEY A., Cambridge, Mass.: 12 sheets of watermarked paper (55605).
- KIMMELL, ANDREW and ATALA, Washington, D. C.: 10 specimens of crayfishes from Delaplane, Va. (54482).
- KINGSTON, JAMAICA, DEPARTMENT OF AGRICULTURE, HOPE GARDENS: Specimen of *Polypodium numbatum* from Jamaica (55624: exchange).
- KIRK, Dr. EDWIN, U. S. Geological Survey, Washington, D. C.: 53 specimens of shells, representing 6 species, from Owens Lake, Cal. (54925).
- KIYANA, ALFRED, Tama, Iowa (through Truman Michelson, Bureau of American Ethnology): Sacred bundle of the Fox Indians, Tama (54934: purchase).
- KLING, W. B., Little Falls, N. J.: 11 fossil shells (54450).
- KNAB, F. (See under J. R. Malloch.)
- KNEUCKER, A., Karlsruhe, Baden, Germany: 90 specimens of Juncaceae and Cyperaceae, from various localities (55254: exchange).
- KNIGHT, Mrs. MARY W., Pocantico Hills, N. Y.: 44 clay concretions from the shore of Lake Champlain, Vt. (54429).
- KNIGHT, O. W., Portland, Me.: 12 samples of peridotite from South Freeport, Me. (55229).
- KNOWLES LOOM REED WORKS, New Bedford, Mass.: 10 loom reeds (54889).
- KÖNIGL. BOTANISCHER GARTEN UND BOTANISCHES MUSEUM. (See under Berlin (Dahlem bei Steglitz), Germany.)
- K. K. NATURHISTORISCHES HOFMUSEUM. (See under Vienna, Austria.)
- KUALA LUMPUR, FEDERATED MALAY STATES, FEDERATED MALAY STATES MUSEUMS: Specimens illustrating the culture of the Central Sakai of the Batang Padang District, Perak, comprising bark cloth, bamboo combs, personal ornaments, etc. (55326).
- KUALA LUMPUR, FEDERATED MALAY STATES, FORESTRY DEPARTMENT (through Leonard Wray): Specimens of gutta-percha, rubber, rubber tree products, cocoanuts and products (54817).

- KUESTER, ARTHUR, Stapleton, N. Y.: 33 specimens of Cactaceae obtained in the southern and western parts of the United States (55430).
- KUNZ, GEORGE F., New York City: 35 lots of radio-active materials and products (55353). (See under Sir William Crookes and Dr. Alexander H. Phillips.)
- LACROIX, Prof. A., Muséum d'Histoire Naturelle, Paris, France: 2 crystals of betafite from Madagascar (54769).
- LA FLESCHÉ, FRANCIS, Bureau of American Ethnology: 2 sacred bundles of the Wind Clan and Deer Clan of the Osage Indians (54946); an Osage buffalo-hair rope (lariat) and an Osage woven belt (55075). Purchase.
- LAMB, Dr. D. S., Army Medical Museum, Washington, D. C.: 3 anatomical specimens (54587; 54782).
- LANDER, Miss L. L., Washington, D. C. (through Mrs. Julian James): 2 lace veils, silk bonnet of the period of 1800-1810, and 2 headpieces of crochet work and beads (55056).
- LANE, Mrs. ELIZABETH C. BALL, Washington, D. C.: A small tortoise-shell perfumery case inlaid with silver, which was formerly owned by Mary Ball, the mother of Gen. Washington (54937 : loan).
- LANE, H. H., University of Oklahoma, Norman, Okla.: Snake, *Glauconia dulcis*, from Oklahoma (55632).
- LANE, L. L., Seattle, Wash.: 5 eggs of spoon-billed sandpiper, *Eurymorhynchus pygmaeus*, from Siberia (54795).
- LAWRENCE & Co. (See under Merri-mack Manufacturing Company, and Pacific Mills.)
- LEE, W. T., U. S. Geological Survey, Washington, D. C.: An iron hoe found in a deserted stick house, Zia Pueblo, N. Mex. (54884); portion of a large antique vase from New Mexico (54879 : exchange).
- LEEDS, F. J., Des Moines, Iowa: A pair of "Belgium Carneaux" pigeons (55275).
- LEFFINGWELL, E. DE K., U. S. Geological Survey, Washington, D. C.: 2 bone wedges and 5 picks, from Barter Island, Alaska (54962).
- LEHMAN, Prof. B. N., general manager, Yankee Consolidated Mining Company, Salt Lake City, Utah (through Victor C. Heikes, U. S. Geological Survey): A specimen of zinc ore showing aurichalcite from the Yankee mine, Tintic District, Juab County, Utah (55099); a specimen of zinc ore with face of aurichalcite crystal from the same locality (55194). (See under Yankee Consolidated Mining Company.)
- LEIBERG, JOHN B., Leaburg, Oreg.: Parasitic copepods from the gills of Chinook salmon, taken at the Oregon State Salmon and Trout Hatchery on McKenzie River, Lane County, Oreg. (54505).
- LELAND STANFORD JUNIOR UNIVERSITY, Stanford University, Cal.: Type specimen of *Atherinops oregonia*, and paratypes of 6 new species of Japanese fishes (55445); type and cotype specimens of *Omerus starksi*, 2 specimens of *O. attenuatus*, and 2 of *O. thaleichthys* (55601).
- LEOBEN, STYRIA, AUSTRIA, COLLEGE OF MINES: 106 specimens of ores from Styria (54953: exchange).
- LE ROY, G. C., Renova, Pa.: Railroad car coupling link (54394).
- LETT, R. C. W., Winnipeg, Canada (through Charles D. Walcott): Specimen of native silver from Cobalt, Ontario (54557).
- LEWIS, Miss ELEANOR. (See under Smithsonian Institution.)
- LICK OBSERVATORY, UNIVERSITY OF CALIFORNIA, Mount Hamilton, Cal.: 16 photographs of astronomical subjects from negatives taken at the Lick Observatory (54490: purchase).
- LINEN THREAD COMPANY, New York City: Specimens illustrating the manufacture of linen thread (54951).
- LITCHFIELD SHUTTLE COMPANY, South-bridge, Mass.: 4 shuttle blocks (55294).

- LITTLE BISON, The Apache Indian Agency, Whiteriver, Ariz.: Stone relics dug from some old cliff and mound dwellings on Mount Baldy, Ariz. (55128).
- LONDON, ENGLAND, BRITISH MUSEUM (NATURAL HISTORY): 6 skulls of Himalayan natives, 6 of Torres Straits Papuans, and 6 of West African Negroes (54929); 621 plants collected in British Guiana by Schomburgk (55131); a wax model of *Eurypterus* (55452). Exchange.
- LONDON, ENGLAND, VICTORIA AND ALBERT MUSEUM: Series of 57 photographs of designs by Hans Holbein of suits of armor for the Great Tournament of King Henry VIII (55565).
- LONG, The Misses, Washington, D. C.: 4 pieces of silverware, consisting of 2 dessert spoons, sugar bowl and cream pitcher (54280); piece of unknown 18th century lace, and a gold bracelet which belonged to Mrs. Isaac Chauncy Long (54878); 22 family relics (55503). Loan.
- LONG, Miss FRANCES, University of Minnesota, Minneapolis, Minn.: Specimen of *Trochilodes skinneri* from Estes Park (55371).
- LONGBACH, B. W., Millersburg, Pa.: 2 specimens of Mutillidæ (54305).
- LONGWORTH, Mrs. ALICE, Washington, D. C.: Specimen of mino, *Eulabes* sp. (54360).
- LOOP, J. D., Long Beach, Cal.: 2 fragments of whalebone, and 13 specimens of barnacles from a humpback whale (55491).
- LUDLOW, Dr. CLARA SOUTHMAYD, Washington, D. C.: Addition of 8 family relics to "The Sutphen-Schenck-Hunt Memorial Collection" (55026).
- LYMAN, Dr. THEODORE, Harvard University, Cambridge, Mass.: 346 mammals collected on a hunting expedition to the Altai Mountains, Siberia, by Dr. Lyman, accompanied by Mr. N. Hollister (54710: collected for the Museum).
- LYNAM, Rev. JOSEPH P., S. J., Stann Creek, British Honduras: Small stone hatchet, celt (54385); three and a half vertebrae of the common Atlantic fin-back whale, *Balenopterus physalus* (55320); bottle of Cohoune oil, also some of the nuts and kernels (55644).
- LYNE, LEWIS F., New York City: A printed pamphlet containing the program of the "Forty-sixth Annual Banquet of the Lincoln Association of Jersey City, February Thirteenth, Nineteen Eleven," the front page of which bears a picture of Abraham Lincoln (55151).
- LYON, Maj. H. G., U. S. Army: 56 ethnological specimens, consisting of Filipino and other weapons, musical instruments, etc., presented by Mrs. H. G. Lyon, of Washington, D. C., in the name of the late Maj. Lyon (54747).
- MCATEE, W. L., Bureau of Biological Survey, Washington, D. C.: Batrachians (54771); fishes from Plummer's Island, Md. (55004). (See under A. C. Weed.)
- MCCALLIE, Prof. S. W., State Geologist, Atlanta, Ga.: About 500 specimens of Tertiary bryozoans from Georgia (55360: exchange).
- MCCOY, Dr. G. W., U. S. Bureau of the Public Health, Honolulu, Hawaii: 2 specimens of annelid representing the species *Lacastis hawaiiensis*, collected by Dr. Wayou (55140).
- MCDERMOTT, F. ALEX., University of Pittsburgh, Pittsburgh, Pa.: 2 adults and a larva of *Photophorus jansoni*, received from F. P. Tepson, Suva, Fiji (54466).
- MCDONALD, Dr. HENRY T., Storer College, Harpers Ferry, W. Va.: Specimen of *Cheilanthes* from West Virginia (55064).
- MCDONALD, WILLIAM. (See under Ernest B. Marshall.)
- MACDOUGAL, Dr. D. T., Director, Desert Laboratory, Tucson, Ariz.: 12 living specimens of Cactaceæ from near Flagstaff, Ariz., collected by G. Sykes (54462).

- MACEO, Dr. CARLOS MORALES, Lima, Peru: Mummy of a child, ancient Peruvian, from near Moquegua (55393).
- McELHOSE, H., Plion, N. Y.: About 24 specimens of Lepidoptera (54729).
- McFEE, Mrs. CHARLES W., Washington, D. C.: Hand spinning-wheel (54642: loan).
- McGRADY, E. F., Baltimore, Md.: 3 valves of *Margaritana hembeli* from the Gulf States (54338).
- McGUIRE, Dr. JAMES C., Washington, D. C.: Dr. McGuire's emergency case of poison antidotes, with booklet of instructions (55173: purchase).
- McKINNEY, J. R., Nacogdoches, Tex.: Specimen of *Gryllotalpa borealis* (54602).
- McNEAL, J. G., Sebring, Fla.: Egg of a sandhill crane, *Grus mexicana*, from Florida (55474).
- MADDREN, A. G., U. S. Geological Survey, Washington, D. C.: 6 specimens of trout, *Salvelinus* sp.?, collected by the donor in Joe River, a western tributary of the Firth River, Arctic Alaska (54895).
- MAGINN, Mrs. JAMES, New York City: Spanish comb which once belonged to Lola Montez (1818-1861) (54808); 18 Spanish fans of the early part of the 19th century, and one fan of the period of Louis XVI, together with 14 specimens of lace, embroidery, crochet, and bead work; also 2 oil paintings by John J. Peoli (54809: loan).
- MAINE AGRICULTURAL EXPERIMENT STATION, Orono: 4 specimens of Lepidoptera (55282).
- MALLOCH, J. R., U. S. Department of Agriculture, Washington, D. C.: 597 specimens of Hymenoptera from Great Britain (54714); 1279 insects, mostly Hymenoptera and Diptera, from Canada and Great Britain (55240); about 1680 Diptera from Great Britain and 120 Diptera from Vietch, Va. (55545).
- MALLOCH, J. R., and F. KNAB, U. S. Department of Agriculture, Washington, D. C.: 620 insects from the vicinity of Washington (55315).
- MANABE, Prof. YOSHIRO, Kwansei Gakuin, Kobe, Japan: Type specimen of eel, *Anguilla manabei*, and 2 specimens of *A. japonica* (54434).
- MANILA, P. I., BUREAU OF EDUCATION: A collection of fibers, mats, baskets, hats and other handiwork, from the Philippine Islands (55625: purchase).
- MANILA, P. I., BUREAU OF SCIENCE: 85 specimens of orchids from the Philippine Islands (54550); 1842 plants from the Philippine Islands (54862; 55132; 55356). Exchange.
- MANNING, ISAAC A., American consul, Barranquilla, Colombia: 2 moths, *Rothschildia bolivar* and *R. aroa* (54575; 54802).
- MARINE BIOLOGICAL LABORATORY, Woods Hole, Mass.: Specimen of hermit-crab, *Cænobita diogenes*, from Jamaica (54844); shrimp, *Peneus setiferus*, from Charleston, S. C. (54872).
- MARLOFF, FRED, Oak Station, Pa.: 14 specimens of Microlepidoptera (55089).
- MARSHALL, ERNEST B., Laurel, Md.: Scarlet tanager, *Piranga erythromelas*, from Maryland (54529); 2 skins and skulls of fox squirrel (54564); skull of a mink, *Mustela lutreola* (55137); skins and skulls of two weasels, *Mustela* (55164); specimen of marsh hawk, *Circus hudsonius*, from Laurel (55367); star-nosed mole (55427). (See under A. C. Weed.)
- MARSHALL, ERNEST B., and WILLIAM McDONALD, Laurel, Md.: Fishes, snake, *Ophibolus rhombomaculatus*, and an insect, from Crow Branch (54359).
- MARSHALL, ERNEST B., and R. B. OVERINGTON, Laurel, Md.: Leeches, reptile, *Eumeces fasciatus*, fishes, and 6 specimens, representing 2 species, of freshwater shells (54333).
- MARSHALL, GEORGE, U. S. National Museum: Specimen of *Chamaenerion* from Maryland (54386); 2 birds from North Carolina (54883).
- MARSHALL, HENRY R., Halifax, N. C.: Sparrow hawk, *Falco sparverius*, from North Carolina (54884); fishes, batra-

- MARSHALL, HENRY R.**—Continued.
chians, turtle eggs, crustaceans, insects, birds and mammals (55068); fishes, birds, beetle, reptile, bat and a mouse (55413: collected for the Museum).
- MAURY, Commander MATTHEW FONTAINE**, U. S. Navy, Descendants of (through Mrs. Mary Maury Werth): Bronze medal of the Exhibition of the Works of Industry of All Nations, London, 1851, awarded to Matthew Fontaine Maury in recognition of his services to the science of navigation (55114). (See under Mrs. Mary Maury Werth.)
- MAXON, W. R.**, U. S. National Museum: 154 plants from the central part of New York (54978).
- MAYNARD, ERNEST A.**, Jamaica, N. Y.: 3 specimens of chistolite (54483: exchange).
- MAYNTZBUSEN, F. C.**, Yaguarazapa, Paraguay, South America (through Dr. Aleš Hrdlička): Ethnological specimens of the Guayaki Indians of Paraguay (55144).
- MAYO, Miss KATHERINE**. (See under John Ogilvie.)
- MAZYŃSK, W. G.**, Charleston, S. C.: 30 specimens of pholads from Sullivan's Island and the Isle of Palms or Long Island, S. C. (54647).
- MBEK, Dr. S. E.** (See under Smithsonian Institution, Smithsonian Biological Survey of the Panama Canal Zone.)
- MEIGS, RETURN JONATHAN**, No. 4, Washington, D. C. (through Miss Elizabeth M. Meigs and the Library of Congress): Sword which was voted by act of Congress, July 25, 1777, to Col. Return Jonathan Meigs, of the Continental Army; and a pair of knee buckles worn by Maj. Gen. Richard Montgomery, of the Continental Army (54812).
- MERRILL, G. K.**, Rockland, Me.: 125 lichens from North America (54744: purchase).
- MERRIMACK MANUFACTURING COMPANY**, Lowell, Mass. (through Lawrence & Co., Boston, Mass.): Specimens of velveteen and corduroy, illustrating process of manufacture (55359).
- METCALFE, T. O.**, Boleyn, La.: Luna moth, *Actias luna* (55207).
- MILLER, GERRIT S., jr.**, U. S. National Museum: 103 plants from Maryland and Virginia (54912).
- MILLER, HUGO H.**, Bureau of Education, Manila, P. I.: 3 skeins of knotted manila hemp (55551).
- MISSOURI BOTANICAL GARDEN**, St. Louis, Mo.: 3 photographs of *Acacia* (54838: exchange).
- MITCHELL, Hon. J. D.**, Victoria, Tex.: A worm of the family Gordiidae (55501).
- MITCHELL, MASON**, American consul, Apia, Samoa: A pair of Samoan ground pigeons, *Phlogoenas samoensis* (54536); 2 eggs and a photograph of Pritchard's megapode, *Megapodius pritchardi*, from Niuafo Island, Tonga group (54611); a kava bowl with drinking cup, from Samoa, received through the Department of State (54832); specimen of *Megapodius pritchardi* collected on Niuafo Island by Capt. E. F. Allen, director, Samoa Shipping and Trading Company (54964); 3 birds and 3 eggs, from Samoa (55243).
- MIXTER, GEORGE**, Boston, Mass.: Skull of a domestic sheep purchased in a market at St. Petersburg, Russia (54454); mammals, birds, reptiles, fishes, marine invertebrates, insects and plants, from Russia and Siberia (54902: collected for the Museum).
- MOORE, BENSON B.**, Mount Rainier, Md.: Portrait of Rembrandt, attributed to himself (55556: loan).
- MOORE, CLARENCE B.**, Philadelphia, Pa.: 7 clay objects found on the surface and in midden debris while digging at Poverty Point, West Carroll Parish, La. (55213); large pottery vessel from the Foster Place (Red River), Ark. (55386); 2 earthenware vessels from the Red River region (55398); 17 human skulls and the bones belonging to one individual, from Arkansas and Louisiana (55418); earthenware pot from a mound in Franklin Parish, La. (55530).
- MOORE, HAROLD W. B.**, Georgetown, British Guiana: About 100 specimens of Lepidoptera (55135).

- MORRIS, B. V., Rockbridge, Mo. (through E. O. Ulrich, U. S. Geological Survey): Specimen of sun-cracked rock filled with wind-blown sand (54999).
- MOTTIER, D. M., Indiana University, Bloomington, Ind.: Specimen of *Dryopteris*, in cultivation (55357).
- MOULTON, DR. W. B., Portland, Me.: 2 tourmaline crystals from Auburn, Me. (55361).
- MUIR, FREDERICK, Hawaiian Sugar Planter's Association Experiment Station, Honolulu, Hawaii: 200 specimens of *Paranagrus optabilis* and *Ootetrastichus beatus*; also an Ascoipteron from Amboina (54288).
- MULFORD, REV. J. N., Palm Beach, Fla.: Bag-worm, *Oiketicus abbotii* (54686).
- MUNDER, NORMAN T. A., AND COMPANY, Baltimore, Md.: 5 photomechanical half-tone reliefs (55602).
- MUNROE, MRS. CHARLES E., Washington, D. C.: Manuscript of an address by Dr. George F. Barker, entitled "The Place of Joseph Henry Among Men" (55599).
- MURDOCK & GIB COMPANY, Franklin, Mass.: 2 Murdock bobbin holders (54452).
- MURPHY, JAMES J., San Diego, Cal.: Specimen of Pacific salamander, *Batrachoseps pacificus* (54278).
- MURRAY, DR. J. D., Washington, D. C.: Specimen of Cooper's hawk, *Accipiter cooperi* (55148).
- MUSEO NACIONAL. (See under San José, Costa Rica.)
- MUSKU GOELDI. (See under Pará, Brazil.)
- MUSEUM OF COMPARATIVE ZOOLOGY. (See under Cambridge, Mass.)
- MUSÉUM D'HISTOIRE NATURELLE. (See under Paris, France.)
- MUSGRAVE, MRS. FRANCES E., Washington, D. C.: An oil painting on a mahogany panel, "Death Preferred," by J. Van Lierus (54679: loan).
- MYERS, P. R., U. S. National Museum: Flint scraper found in the Virginia woods opposite Plummer's Island (54572); 157 insects from Washington, D. C., and vicinity, Maryland, and West Virginia (54574; 54871; 55238).
- MYERS, MRS. P. R., Washington, D. C.: 2 bullets and 4 arrowpoints, found by the donor on Bull Run battlefield, Va. (54571).
- NATIONAL AND PROVIDENCE WORSTED MILLS, Providence, R. I. (See under American Woolen Company.)
- NATIONAL ASSOCIATION FOR THE HISTORY OF ITALIAN UNITY, Rome, Italy (through the President of the United States): A stone from the wall of Servius Tullius, at Rome, to replace the one which was forwarded as a tribute to President Lincoln by the National Roman Committee in 1865, but was lost in transit (55068).
- NATIONAL SILK DYEING COMPANY, Paterson, N. J.: Silk fabrics and yarns illustrating the application of color to silk (55134).
- NATIONAL SOCIETY OF THE COLONIAL DAMES OF AMERICA, Washington, D. C.: A framed piece of embroidery, 1785, belonging to Mrs. Quincy O'M. Gillmore of New York (55115); 2 framed pictures done in embroidery, lent by Mrs. Frederic F. Thompson of New York (55258). Loan.
- NATIONAL SOCIETY OF THE DAUGHTERS OF THE AMERICAN REVOLUTION, Washington, D. C.: An antique German casket bearing date of 1660 and presented to the Society by Miss Harriet V. deB. Keim (55569: loan).
- NATTRESS, THOMAS, Amherstburg, Ontario, Canada: 800 specimens of Paleozoic invertebrate fossils and minerals, from the Detroit River series and other formations of Canada (54896: purchase).
- NEBRASKA, UNIVERSITY OF, DEPARTMENT OF ENTOMOLOGY, Lincoln, Nebr.: 80 named bees, including 20 paratypes of 12 species (54554).

- NEILL, AARON S. (through Dr. H. Neill, Sibley, Iowa): Pitted stone from an Indian camp site in Minnesota (54582).
- NEILSON, JOHN L., Surgeon, U. S. Navy, Washington, D. C.: A pandanus hat worn by the Moros of the plateau region of Mindanao, P. I. (55506).
- NELSON, DR. AVEN, University of Wyoming, Laramie, Wyo.: 4 living specimens of *Pediocactus simpsonii* from Wyoming (55537).
- NELSON, CARL, Washington, D. C.: Moth from Washington (54396).
- NEVADA, UNIVERSITY OF, Reno, Nev.: 67 plants from Nevada and California (54535); 7 specimens of *Trifolium* from California (55331). Exchange.
- NEWCOMB, MRS. SIMON, Washington, D. C.: The button of the Prussian decoration "Pour le Merite," which was conferred upon Prof. Simon Newcomb by the German Emperor in 1906, consisting of a black enamel shank and a small bow of black and silver ribbon (55244: loan).
- NEW MEXICO COLLEGE OF AGRICULTURE AND MECHANIC ARTS, State College, N. Mex.: Type specimen of *Quercus confusa* (55499: exchange).
- NEWTON, CHARLES H., Washington, D. C.: Weston incandescent electric lamp, 70 volts; 2 Weston snap-switches; Weston fuse box; Edison switch; primitive electric light switch; and Edison plug cutout (54383).
- NEW YORK BOTANICAL GARDEN, Bronx Park, New York City: Moss from Guatemala (54295); 2,889 plants, including ferns and Cactaceae, chiefly from the West Indies (54404; 54408; 54441; 54620; 55226; 55364; 55477; 55495; 55513; 55575; 55638); 10 specimens of plants and 12 photographs (54458); photographs and fragments of 3 type specimens of *Lycopodium* from South America (54606); specimen of *Hydrocotyle verticillata* (54697); 17 specimens of Cactaceae and 2 photographs (54784; 54898; 55036; 55538); 38 living specimens of Cactaceae (54629; 54909; 55042); 417 plants mainly from Utah (55183); 120 plants collected in Bolivia by Buchtien (55193). Exchange.
- NEW YORK COMMERCIAL COMPANY, New York City: 22 samples of commercial grades of rubber (54794).
- NICHOLS, FRED. C., Balboa, Canal Zone: Larva of a moth of the family Megalopygidae (54421).
- NICHOLS, MRS. J. R., Bedford, Va.: Beetle, *Lucanus elaphus*, from Bedford (55502).
- NICHOLS, JOHN T., American Museum of Natural History, New York City: 22 specimens of Cuban crustaceans (55208).
- NICOL, Prof. WILLIAM, School of Mining, Kingston, Ontario: A piece of garnet rock (54685: exchange).
- NIEUWLAND, Rev. J. A., Notre Dame, Ind.: 77 plants from Indiana (55241).
- NIVEN, WILLIAM, Mexico, Mexico (through Harry S. Bryan): Pictographic record on cocoanut fiber, from Manzanillo, Mexico; and a painting of St. Augustine, on canvas, inlaid with pearl shells (54644: loan).
- NORTH, H. B., Rutgers College, New Brunswick, N. J.: 6 specimens of limonite after marcasite (54516: exchange).
- NOTRE DAME, UNIVERSITY OF, Notre Dame, Ind.: 55 plants, chiefly duplicate types, from Indiana (54276; 54416: exchange).
- O'BERN, JOSHUA H., Kittanning, Pa.: 12 specimens of *Polygyra albolabris* from Pennsylvania (54615).
- OGILVIE, JOHN (through Miss Katherine Mayo, New York City): 115 ethnological specimens from Dutch Guiana (55609: purchase).
- OHIO STATE UNIVERSITY, Columbus, Ohio: 16 neotropical dragonflies, received through Philip P. Calvert (54326); fern from Guatemala (54579). Exchange.
- OKLAHOMA, UNIVERSITY OF, Norman, Okla.: 8 specimens of phyllopod crustaceans, *Estheria* (54725).
- OLDROYD, MRS. T. S., Long Beach, Cal.: Specimen of *Haliotis corrugata* from California (55083).
- OLIVER, GEORGE W., U. S. Department of Agriculture, Washington, D. C.: 12 plants collected in the Royal Botanic Garden, Edinburgh, Scotland (54891).

- ORCUTT, C. R., San Diego, Cal.: Shells from various localities in Mexico (54952); 2 specimens of Mexican bat, *Balantiopteryx plicata* (55030); 5 living specimens of Cactaceæ collected in Mexico (55289); land, fresh-water, and marine shells from northern Mexico and Texas (55508; 55612).
- OSBORNE, N. M., Norfolk, Va.: Sponge from Cape Henry, Va. (55073).
- OVERINGTON, R. B. (See under Ernest B. Marshall.)
- PACIFIC MILLS, Lawrence, Mass. (through Lawrence & Co., Boston, Mass.): A collection of cotton piece goods and 89 old Hamilton Print Works sample books (55517).
- PAGE, THOMAS NELSON, Washington, D. C.: A collection of Greek, Roman, and Egyptian antiquities (55566: loan).
- PAINTER, J. W., Washington, D. C.: Carbon print and 6 old silver albumen prints, all undated (55097).
- PALERMO, ANTONY, Washington, D. C.: Rudely carved coiled serpent in diorite from Mexico (54402).
- PALMER, Lieut. Commander LEIGH C., U. S. Navy, Navy Department, Washington, D. C.: English verge watch in a double silver case (55199: loan).
- PALMER, WILLIAM, U. S. National Museum: Fishes, fossils, crabs, an annelid, and insects, from Calvert County, Md. (54455).
- PALMER, WILLIAM, and A. C. WEED: Fishes, invertebrates, fossils, and insects, collected in Calvert County, Md., by Mr. Palmer, Mr. Weed, William Wallis, and E. M. Hasbrouck (54315).
- PANAMA-CALIFORNIA EXPOSITION OF SAN DIEGO, San Diego, Cal. (through Aleš Hrdlička): 34 skulls and 8 skulls with skeletons, of the gorilla and chimpanzee (55584: exchange).
- PANAMA CANAL ZONE, BIOLOGICAL SURVEY OF:
The material collected through the cooperation of the Smithsonian Institution, the Department of Agriculture,
- PANAMA CANAL ZONE—Continued.
the Bureau of Fisheries, and the Field Museum of Natural History is accessioned and referred to in detail under the following headings:
Agriculture, Department of, Bureau of Biological Survey (54293; 54301; 54339; 54351; 54424; 54480).
Smithsonian Institution, Biological Survey of the Panama Canal Zone (54622).
- PARÁ, BRAZIL, MUSEU GOELDI: 2 plants from Brazil (54944: exchange).
- PARAMARIBO, SURINAM, DEPARTEMENT VAN DEN LANDBOUW (through J. Kuyper): 35 plants, mainly ferns, from Surinam (55106: exchange).
- PARIS, FRANCE, MUSÉUM D'HISTOIRE NATURELLE (through E. L. Bouvier): 3 specimens of isopod, *Leptanthura truncata* (54971); 23 specimens, representing 9 species, of Atyidæ (55084: exchange).
- PARISH, S. B., San Bernardino, Cal.: 3 specimens of *Populus macdougalii* collected in Salton Basin, Cal. (55273); 2 specimens of *Selaginella* from Arizona (55307); living specimen of *Opuntia* from Mill Creek Canyon, Cal. (55496).
- PARKINSON, G. A., Marble Falls, Tex.: Specimen of gadolinite in granite (54649).
- PARKS, Prof. W. A., University of Toronto, Toronto, Canada: 12 specimens of fossil corals from the Niagara formation of Canada (54789).
- PARROTT, Prof. P. J., New York Agricultural Experiment Station, Geneva, N. Y.: Specimen of *Yponomeuta malinellus* bred from apple and one of *Y. padellus* bred from cherry (54949).
- PARTRIDGE, B. W., jr., Huntington, W. Va.: Beetle, *Lucanus elaphus* (54312).
- PATCHELL, JAMES, Knik, Alaska: Skin and skeleton of a coney, *Ochotona* (54503); incomplete skeleton of a coney (55438).
- PAYNE, Miss S. K., Elmira, N. Y.: Model of a papoose made by a child of the Apache tribe of Indians at Oklahoma (55435).

- PEABODY MUSEUM OF NATURAL HISTORY, YALE UNIVERSITY, New Haven, Conn.: 56 specimens of Mesozoic sponges, representing 47 species (54341: exchange); 2 specimens of isopod, *Idothea pelagica* and *Cubaris pisum* (54839).
- PEARSE, Dr. A. S., University of Wisconsin, Madison, Wis.: 6 crabs from Nahant, Mass. (54765).
- PEARY, Rear Admiral ROBERT E., U. S. Navy (retired), Washington, D. C.: Special gold medal inscribed "The Peary Arctic Club to R. E. Peary, April 6, 1912"; gold medal inscribed "L'Academie des Sports à L'Amiral Robert E. Peary, 1911"; and a trophy (gold, silver and bronze design on oak tablet) inscribed "Presented to Commander Robert E. Peary, C. E., U. S. N., Discoverer of the North Pole, April 6, 1909, by the Canadian Camp of New York City, March 5, 1910" (55161: loan).
- PENNINGS, G. J., Bahrein, Persian Gulf: About a dozen cases of a bag-worm belonging to the family Psychidae (54291).
- PENNINGTON, P. M., Pattersons Creek, W. Va.: 11 arrowpoints found on Big Capon River, near Yellowspring, Hampshire County, W. Va. (54761).
- PERADENIYA, CEYLON, ROYAL BOTANIC GARDENS: Trunk of a Para rubber tree, *Hevea brasiliensis* (54816).
- PERKS, Mrs. FRANK, Harrison, Cal.: Abnormal "double" egg of a domestic fowl (55223).
- PHILLIPS, Dr. ALEXANDER H., Princeton University, Princeton, N. J. (through George F. Kunz): A series of carnotite separations (55412).
- PICKETT, THEODORE J., Washington, D. C.: 9 Mexican antiquities (54670: purchase).
- PILSBRY, Dr. H. A., Academy of Natural Sciences, Philadelphia, Pa.: 2 specimens of *Holospira* from Texas (54638).
- PINCHOT, Mrs. JAMES W. (See under Mrs. William Phelps Eno.)
- PINCKNEY, EDWARD RUTLEDGE, Charleston, S. C. (through Mrs. Julian James, Washington, D. C., and Mrs. C. Albert Hill, Charleston, S. C.): A skirt and Watteau overskirt of yellow American-raised silk (54297: loan).
- PINCKNEY, Capt. THOMAS, Charleston, S. C. (through Mrs. Julian James and Mrs. C. Albert Hill): Christening robe and mantle of Maj. Gen. Thomas Pinckney, U. S. Army, born in Charleston, S. C., in 1750; and an embroidered coat and waistcoat worn by him as ambassador to the Court of St. James in 1794, during President Washington's second administration (54298: loan).
- PINTO, Dr. CARLOS DE CERQUEIRA, Pará, Brazil: 3 small specimens of rubber coagulated by the donor's smokeless process (54819).
- PIPER, Prof. C. V., U. S. Department of Agriculture, Washington, D. C.: Plant from Washington (54317); 15 plants from Oregon and a fragment of the type of *Sagittaria latifolia* (54417); 14 plants from Washington, collected by E. Bartholomew (55211); specimen of *Selaginella* from Virginia (55377).
- PIRTLE, Dr. G. W., Carlisle, Ind.: Specimen of *Corydalis cornuta* (54432).
- PITTIER, Prof. H., U. S. Department of Agriculture, Washington, D. C.: 69 plants from Panama and Costa Rica (54626); 16 plants from Panama, collected by Brother Celestine (54860); 25 living specimens of plants, mostly Cactaceae, from Venezuela (55276; 55469; 55535: collected for the Museum); 4 living specimens of *Pereskia* from Venezuela (55639).
- PITTSBURGH, UNIVERSITY OF, Pittsburgh, Pa.: 5 models of Paleozoic fishes and crustaceans (55344: exchange).
- POLLARD, JAMES H., Denton, Md.: Abnormal egg of a domestic fowl (54531).
- POLLOCK, Mrs. JOHN S., Washington, D. C.: Skin and skull of a ground squirrel (55475).

- POORE, Mrs. TOWNSEND** (through G. B. Poore, Lancaster, Pa.): Walking-beam of the locomotive "Stourbridge Lion" (55587).
- POPE, M. W.**, Baltimore, Md.: 45 plants from Arctic Alaska (54805); beetles from the International Boundary between Rampart House and the Arctic Ocean, received through J. M. Jessup (54992).
- PORTER, Prof. CARLOS E.**, Santiago, Chile: 15 specimens of Diptera, 2 of Coleoptera and a specimen of fungus (54903); invertebrates from Chile (55283).
- POST OFFICE DEPARTMENT**: A copy each of the parcel post maps of the United States and Hawaii, used in connection with the establishment of this service on January 1, 1913. These maps were among the first to be printed, and bear the autograph of the Postmaster General (54751); 44 sets of specimen stamps, etc., 43 of which are in duplicate (approximately 11,300 specimens), received from the International Bureau of the Universal Postal Union, Berne, Switzerland (55009; 55145; 55147; 55182; 55284; 55394; 55568); 1 each of the 7 new Canadian postage stamps, and 50 Newfoundland stamps of various denominations (55147); 2 sets of 12 specimen stamps each, of various denominations, issue of 1912, commemorative of the revolution, and foundation of the Republic, received from the Director of Posts, Peking, China (55284); 88 U. S. postage stamps of various issues; and 125 U. S. stamped envelopes, in current use in 1888 (55394); 2 sets of specimen stamps, etc. (288 items), received from the Director General of Posts and Telegraphs, Argentine Republic; and a set of 32 Honduras stamps (55018); 9 albums of die proofs and postage stamps (55118); bound copy of the Parcel Post Regulations, with the autograph signature of Postmaster General Hitchcock (55159).
- POWELL, Prof. S. L.**, Salem, Va.: 50 specimens of early Silurian fossils from Virginia (55000); 100 specimens of Upper Ordovician fossils from central western Virginia (55295).
- PRESCOTT, JOHN S.**, U. S. National Museum: Incandescent electric lamp with key socket (54348).
- QUEHL, Dr. L.**, Halle (Saale), Germany: 2 living specimens of *Mamillaria kunzeana* (54707); specimen of *M. dumetorum* (55423); 2 living specimens of *Mamillaria* (55488; 55549). Exchange.
- QUINN, Dr. I. SANTIAGO CARDWELL**, Pará, Brazil: Specimens of rubber and Ceará rubber tree flowers and fruits (54820).
- RACOVITZA, Dr. E. G.**, Laboratoire Arago, Banyuls-sur-mer, France: 9 specimens, representing 5 species, of cave isopods (54566: exchange).
- RAMOS, RAMON, Y CASSELLOS**, Arecibo, P. R. (through Robert Craig Greene, Washington, D. C.): A Spanish bond, Island of Porto Rico, 1876 (54641).
- RAMSDEN, CHARLES T.**, Guantanamo, Cuba: 13 bats from Cuba (54915; 55590); 2 specimens of *Poliophtila lembeyi* from Cuba (55087).
- RATHBUN, Miss MARY J.**, U. S. National Museum: 2 specimens of orchid, *Hexalectris*, and a snake, from Virginia (54449; 54515; 54518).
- RAVENEL, T. W.**, Green Pond, S. C.: Skull of a deer (54914).
- RAVENEL, W. DE C.**, U. S. National Museum: 1 deer skin, 2 fox skins, and skull of a fox (54842).
- REA, ARCHIBALD**, Tajique, N. Mex.: A small collection of mammal bones from a cave in the Manzano mountains (55409).
- REHLEN, Dr. W.**, Nürnberg, Germany: Collection of European archeological specimens (55321: exchange).
- REINKE, Rev. THEODORE**, York, Pa.: Skin of kinkajou, *Potos flavus* (54688).
- REISER, GEORGE WILLIAM**, Baltimore, Md.: A musical instrument, combined bass drum and cymbal pedal beater (54756).
- REMINGTON TYPEWRITER COMPANY**, New York City: Typewriter, model No. 1, Remington machine (54877).

- RICE, ARTHUR P., Progreso, Yucatan (through Edwin Thompson, Waverley, Mass.): A Maya rattle (55396).
- RICE, B. W., Caldwell, Idaho: Vertebra and jaw fragments, with teeth, of a fossil fish, *Mylocyprinus robustus* (54995).
- RICE, C. S., Lawrenceburg, Ky.: 2 luna moths, *Actias luna* (55309).
- RICHARDS, A., University of Texas, Austin, Tex.: 14 specimens of *Planorbis lentus* from Austin (55437).
- RICKER, P. L., U. S. Department of Agriculture, Washington, D. C.: 3 fungi from the Philippine Islands (54815).
- RICKETTS, H., Princeton, N. J.: Specimens of *Macrosiphonia brachysiphon* from Mexico (54830).
- RIDGWAY, ROBERT, U. S. National Museum: 4 snakes representing 2 specimens of *Eutania sirtalis* and a specimen each of *Lampropeltis sayi* and *L. calligaster*; 3 young toads, *Bufo americanus*; and a bat, *Nycteris cinerea*, all from Illinois (54552); mammal skin, bird skins, reptiles, insects, crayfish with young, and a plant in alcohol, from Olney, Ill. (54852); specimen of red-headed woodpecker, *Melanerpes erythrocephalus* (55380).
- RIGGIN, Miss AUGUSTA A., Sharptown, Md.: 2 specimens of sand-dollar, *Mellita pentapora*, from Wallops Island, Va. (55138).
- RIKSMUSEETS, BOTANISKA AFDELNING. (See under Stockholm, Sweden.)
- RILEY, J. H., U. S. National Museum: 4 specimens, skins and skulls, of *Sciurus* (54850); 5 bird skins, chiefly from tropical America (55358); 4 skins of crow, *Corvus brachyrhynchos*, from Virginia (55379); 11 bird skins from Virginia and South Carolina (55579).
- RITTER, Dr. WILLIAM E., University of California, Berkeley, Cal.: 10 specimens of Ascidian, *Halocynthia johnsoni*, from San Diego Bay (55219).
- RIXEY, Mrs. PRESLEY M., Washington, D. C. (through Mrs. Julian James): Chinese fan, in box, brought from China
- RIXEY, Mrs. PRESLEY M.—Continued.
by Mrs. Rixey's father, Admiral English; pair of slippers knit by Mrs. William McKinley and presented by her to Mrs. Rixey (54310: loan).
- ROACH, Mrs. MARY J., Washington, D. C., C. G. BROWN, Texarkana, Tex., Mrs. A. R. SMITH, Glenside, Pa., Mrs. JOHN R. GRAY, Kinsale, Va., Miss KATHERINE BROWN, Chemawa, Oreg., Miss JULIA G. BROWN, Washington, D. C.: Diploma of Doctor of Medicine, conferred upon Gustavus Richard Brown of Maryland in 1768, by the University of Edinburgh, Scotland (54299).
- ROBERTSON, A. D., University of Toronto, Toronto, Canada: 100 specimens of fresh-water shells, representing 20 species, from various localities in Georgian Bay, Lake Huron (55285).
- ROBERTSON, W. R. B., University of Kansas, Lawrence, Kans.: 11 specimens of Orthoptera from Jamaica (55406).
- RODGERS, JAMES L., American consul general, Habana, Cuba (through Department of State): Specimen of weathered limestone containing a nodule of black flint or chert (54398).
- RODGERS, Hon. W. C., Nashville, Ark.: A flint blade and 2 sinkers, from the vicinity of Nashville (54281).
- ROSE, Miss JESSIE P., Crystal, Oreg.: 10 living specimens of *Gormanina* from Oregon (54631).
- ROSE, Dr. J. N., U. S. National Museum: Lizard, *Holbrookia maculata*, from Kansas (54623).
- ROSENDAHL, Prof. C. O., University of Minnesota, Minneapolis, Minn.: 6 plants from Minnesota (55013); 21 photographs of flowers of *Mitella* (55443).
- ROSENSTOCK, Dr. E., Gotha, Germany: 272 ferns, including 2 from Costa Rica (54814; 55421). Exchange.
- ROSSITER, Dr. T. J., Washington, D. C.: An anatomical specimen (55327).
- ROSSON, Mrs. ELIZABETH W., Alexandria, Va.: Specimen of Chinese virgin tea (55614).

- ROSSWORM, V., Cumberland, Md. (through F. X. Millman): Nest of a Baltimore oriole, *Icterus galbula*, from Maryland (55216); pelt of a "double-faced calf" (55306).
- ROTHEERT, Dr. W., Cracow, Austria: 24 plants from Europe (54519: exchange).
- ROUSSELET, CHARLES F., London, England: 29 microscopic slides of Rotifera (7th and 8th instalments) (54800; 55591). Purchase.
- ROYAL BOTANIC GARDENS. (See under Kew, London, England.)
- ROYAL BOTANIC GARDENS. (See under Peradeniya, Ceylon.)
- RUTH, ALBERT, Polytechnic, Tex.: 450 plants from the District of Columbia and vicinity (54377); 5 plants from Texas, including a living specimen of *mamillaria* (55494; 55622).
- SACKER, HERBERT, Toledo, Ohio: 50 stone implements from the vicinity of Toledo (54931).
- ST. PETERSBURG, RUSSIA, KAISERLICHER BOTANISCHER GARTEN: 269 plants, including 60 specimens of Sapotaceæ and 98 specimens of Cassia, collected in Brazil by Riedel (55203; 55271; 55378). Exchange.
- SAMSON, Mrs. CLARISSA W. (through Miss Edith Samson, West Medford, Mass.): A colonial winnowing-fan (54513).
- SANDERS, Prof. J. G., University of Wisconsin, Madison, Wis.: 2 specimens of Coleoptera, *Dendroides canadensis*, and 2 specimens of Diptera, *Xylophaga* sp.? (54388).
- SANFORD, Dr. L. C., New Haven, Conn.: Type of a new subspecies of red cross-bill, *Loxia curvirostra perna* (54788); 23 bird skins, chiefly from Alaska (54975); type specimen of *Micropallas whitneyi sanfordi*, from Lower California (55481).
- SAN JOSÉ, COSTA RICA, MUSEO NACIONAL: 21 living specimens of Cactaceæ, including 2 specimens of *Cereus aragoni* (55037; 55478). Exchange.
- SAUM, T. J. (See under E. E. Bennett.)
- SAUNDERS, PAUL, Washington, D. C.: Water-snake from the District of Columbia (55299).
- SAUVOIT SILK MANUFACTURING COMPANY, Philadelphia, Pa.: A Jacquard machine (600 hook, single lift, Crompton Knowles) (55300).
- SCHAFFNER, CHARLES E., Washington, D. C.: Parrot, *Amazona panamensis* (55176).
- SCHLÜTER, WILHELM, Halle a. Saale, Germany: 2 skins and skulls of *Rupicapra rupicapra* from Switzerland (54321: purchased from the Harrison fund).
- SCHMID, EDWARD S., Washington, D. C.: Specimen of guinea fowl, *Numida mitrata*? (54787); hybrid between a European goldfinch and a canary (55104); parrot, *Amazona panamensis* (55175); parrot, *Amazona virenticeps* (55196); skin and skull of a Japanese dog (55354); copperhead snake from Great Falls (55645).
- SCHMID, Miss FLORENCE, Washington, D. C.: Skin and skull of a domestic dog "Wallie" (55152).
- SCHOENRICH, OTTO, Washington, D. C.: Mounted specimen of quetzal, *Pharomachrus mocinno*, from Nicaragua (55634).
- SCHOETENSACK, Prof. Dr. OTTO, Universität Heidelberg, Heidelberg, Germany: 2 plaster casts (one colored and one white) of the *Homo heidelbergensis* jaw (54780).
- SELIGMANN, Dr. C. G., London, England: 47 photographs of the Nubas of southern Kordofan, and 8 of skulls of natives of New Guinea (54881).
- SENGE, Baron, Idzumo Temple, Idzumo, Japan (through Stewart Culin, Brooklyn Institute Museum, Brooklyn, N. Y., and N. Tsuda, directorial assistant of the Imperial Museum at Tokyo): Sacred fire-drill and hearth from the Idzumo shrine, Temple of Idzumo (55052).

- SHANNON, RAYMOND C., U. S. Department of Agriculture, Washington, D. C.: Brown bat, *Eptesicus fuscus* (55250); about 25 dipterous larvae collected around Washington (55311); belted kingfisher, *Ceryle alcyon*, from Washington (55349).
- SHAW, E. W., U. S. Geological Survey, Washington, D. C.: About 30 specimens, representing 7 species, of Loess fossils from Weston, Mo. (55515).
- SHELDON, F. B., Ashland, Va. (through Frank L. Hess): 7 pieces of zircon sandstone (54296).
- SHELDON, JOE, La Porte, Tex.: Rhinoceros beetle, *Stratejus julianus* (54488).
- SHELFORD, V. E., University of Chicago, Chicago, Ill.: Isopod, *Porcellio rathkei*, from Riverside, Ill. (54827).
- SHERMAN, FREDERIC FAIRCHILD, New York City: Oil painting, "Twilight after Rain," by Norwood Hodge MacGilvary, presented in memory of Eloise Lee Sherman (55200).
- SHIMEK, Prof. B., Iowa City, Iowa: 7 specimens (cotypes) of *Succinea witteri* from Iowa City (55157).
- SHIMER, Prof. HERVEY W., Massachusetts Institute of Technology, Boston, Mass.: Type specimen of a fossil sponge, *Caloptychium ? jerseyense* (55433).
- SHIRBY, B. EARL, Clearfield, Pa.: Moth, *Telea polyphemus* (54374).
- SHOEMAKER, CLARENCE R., U. S. National Museum: Invertebrates from Chesapeake Bay (54524).
- SHUFELDT, Dr. R. W., Washington, D. C.: Spider, *Pachylomerus audouini* (54389); 5 lizards from California, a snake from New Jersey, and one from an unknown locality (54423).
- SILBERLING, A. C., Progress, Mont.: A collection of Fort Union (early Tertiary) mammals, containing about 400 specimens (54906: purchase).
- IMON, JOSEPH, New York City: 5 coins (55533).
- SIMPSON, CHARLES T., Little River, Fla.: Specimen of *Pleurodonte auricoma*, a descendant of specimens introduced from Cuba by the donor and now acclimated near Little River (54763); claw of a land-crab, *Cardisoma guanhumi*, from Little River (55341).
- SIMPSON, W. W., Taochow, Old City, Kansu, China: 3 skins and skulls of deer and a leopard skin (54916: purchase).
- SJÖSTEDT, Prof. YNGVE, Naturhistoriska Riksmuseet, Stockholm, Sweden: Specimen each of *Oedemagena tarandi* and *Cephenomyia trompe* (55631).
- SMART, JAMES A., U. S. National Museum: Specimen of common mole, *Scalopus* (54560); flying-squirrel, *Sciuropterus* (54606); 3 raccoon skulls, 4 opossum skulls, 2 skunk skulls, mink skull, squirrel skull, rabbit skull, and a deer skull, all from the southern part of Virginia (54854).
- SMITH, Mrs. A. R. (See under Mrs. Mary J. Roach.)
- SMITH, Rev. AUGUSTUS (through Robert A. Smith, Washington, D. C.): A piano manufactured by Torp and Unger, of New York City, sometime previous to 1840 (55527).
- SMITH, Prof. FRANK, University of Illinois, Urbana, Ill.: 23 specimens, representing 12 species, of earthworms (54917: exchange).
- SMITH, Dr. HUGH M., Bureau of Fisheries, Washington, D. C.: 44 specimens of *Helix nemoralis* from Denmark (54648); 12 photographs of algae and 50 algae from Japan (54943); admission card to the Senate gallery, used at the time of the impeachment of President Andrew Johnson, in 1868 (55011).
- SMITH, MAXWELL, Hartsdale, N. Y.: 35 specimens, representing 7 species, of recent shells from various localities (55500).
- SMITH, MILLARD H., Candler, N. C.: Quartz arrowheads and fragments (55237).

SMITHSONIAN INSTITUTION:

Movement of a pneumatic clock made by A. Hahl and Company, which was in use in the Smithsonian building about 20 years ago (54343); mammals and birds collected in Canada by Sidney Walcott and H. H. Blagden (54888); 5 china plates (known as "George Washington plates") presented to the Institution by Mrs. J. B. Foraker (55044); 502 flower studies in water color, painted by Miss Adelia Gates; a photograph of Miss Gates; and a book entitled "The Chronicles of the Sid, or the Life and Travels of Adelia Gates," by Adela E. Orpen, presented to the Institution by Miss Eleanor Lewis (55181); 81 plants from Central America, received from Capt. John Donnell Smith (55227; 55308); a block of Newland limestone from the Algonkian terrane near White Sulphur Springs, Belt Mountains, Mont. (55616).

Smithsonian Biological Survey of the Panama Canal Zone: 29 specimens of mollusks, chiefly cephalopods in alcohol, from the Isthmus of Panama (both oceans), collected by S. E. Meek, of the Field Museum of Natural History, and S. F. Hildebrand, of the Bureau of Fisheries (54622).

Bureau of American Ethnology: 6 photographs taken by A. J. Horswill, San José, Mindoro, P. I., among the natives of Mindoro Island; presented by Munn and Company, New York City (54311); a sacred pack of the Fox Indians of Iowa (54465); 5 pieces of cotton painted with Assyrian subjects (54691); sacred looms and burden straps of the Osage Indians, collected by Francis La Flesche (54798); 3 fragments of Indian pottery found at Red Willow, Nebr., by Mrs. Ada Buck Martin (54933); 2 ethnological objects from the natives of British Guiana, presented to the Bureau by Dr. Walter Roth, Pomeroon River, British Guiana (55234); stone and bone implements, pottery fragments and human bones, from ancient shell heaps and campsites near Brooklin, Me., collected by Frank Hamilton Cushing in 1896 (55260); a set of five plum-seed gaming

SMITHSONIAN INSTITUTION—Continued.

dice of the Omaha Indians, and a bottle of seeds used by the Omahas as a perfume, presented to the Bureau by Francis La Flesche (55323); a pair of Osage ceremonial moccasins and an Osage ceremonial "pipe," presented to the Bureau by Mr. La Flesche (55420); human skull and part of another, found in a shell-bank near Port Arthur, Tex., and presented to the Bureau by Mrs. Bruce Reid of that place (55586).

National Museum, collected by members of the staff: Bartsch, Paul: Specimens of alga from the Gulf of California (54596); 6 living specimens of Cactaceae from Florida (55472); invertebrates from the Florida Keys (55487). Bassler, R. S.: About 1,000 specimens of Lowest Silurian fossils from southwestern Ohio (54340); about 500 Lower Ordovician fossils from Maryland (54548); weathered limestone products from Maryland (54551); 100 Ordovician fossils from western Maryland (55342). Bean, B. A.: Fishes and crustaceans from the Susquehanna River (54469); 2 specimens of *Gerres* (54973). Gidley, J. W.: About 100 specimens, representing 24 species, of fossil mammals from a cave deposit near Cumberland, Md. (54768). Gilmore, C. W.: Carapace of a turtle from Livingston County, Mich. (55629). Holmes, William H.: Relics from a village site on the bank of Buckhead Creek, Burke County, Ga., 12 miles west of Waynesboro, and from a mound 12 miles below Columbia, S. C., on the left bank of the Congaree River (55401). Hrdlička, Aleš: 205 skulls of Mongolians; 14 skulls and a skeleton with skull, of Buriats (54928). Maxon, William R.: 100 plants from Maryland (54549). Merrill, George P.: 4 specimens of so-called "golden granite" from Peekskill, N. Y. (54472); 2 specimens of olivine diabase from Lewiston, Me., and 4 of pegmatitic rock in gneiss and carrying graphite from Yarmouth, Me. (54474); a snake and a fish from Sheepscot Bay, Me. (54496); 2 specimens of igneous rock from Boothbay, Me. (54497). Miller, Gerrit S., jr.:

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Specimen of star-nosed mole (55405). Palmer, William: Fishes and crustaceans, from Plum Point and Plum Point Creek, Md. (54543); specimen of *Gerres* (54972). Ridgway, R.: Frog, *Rana areolata*, from Illinois (54314). Rose, J. N.: 200 plants obtained in Europe (54436); 6 living specimens of *Opuntia opuntia* from near Great Falls, Va. (54698); 7,000 plants, 3 fishes, 14 reptiles and batrachians, 6 vials of entomotraca, a crab, and 3 packages of shells, from the West Indies (55447). Russell, P. G.: About 500 insects from the West Indies (55312). Smart, James A.: Specimen of *Eptesicus fuscus* (55404). Weed, A. C.: Young box tortoise from Maryland (55485). Wood, Nelson R.: Toad and 28 lizards, from Florida (55112; 55248).

National Museum, made in the Anthropological Laboratory: 3 casts of a double mortar found in Montgomery County, Mo., and now owned by Mr. C. E. Johnson, of Montgomery City, Mo. The original is made of stalactite, the face being ornamented with intersecting incised lines (54494); 1 cast each of 3 ear disks, a chipped axe, and an inscribed round stone, belonging to Mrs. William H. Johnson, Springfield, Mo. (54577).

National Zoological Park: Coney, *Procapra capensis*; lynx, *Lynx rufus*; peccary, *Dicotyles tajacu*; beaver, *Castor canadensis*; baboon, *Papio cynocephalus* (54304); barn owl, *Atuaco pratincola* (54356); 2 young polar bears, *Thalarctos maritimus*; American marten, *Mustela americana*; bontebok, *Damaliscus pygargus*; Bennett's wallaby, *Macropus ruficollis bennetti*; rough fox, *Canis cancrivorus*; American bison, *Bison americanus*; fur seal, *Callorhinus ursinus* (54987); roseate spoonbill, *Ajaia ajaja*; 2 specimens of European flamingo, *Phoenicopterus roseus*; 2 specimens of bleeding-heart pigeon, *Phlogoenas luzonica*; cut-throat finch, *Amadina fasciata*; Victoria crowned pigeon, *Goura victoria*; Vera Cruz troupial, *Icterus gularis*; 2 skins of black-headed finch, *Munia atricapilla*; Lady Gould's finch, *Paphila gouldi*; 2 specimens of

SMITHSONIAN INSTITUTION—Continued.

snow pigeon, *Columba leuconota*; banded parakeet, *Palaeornis fasciatus*; African ground dove, *Cena capensis*; Chapman's curassow, *Craz chapmani* (55090); 2 specimens of Rosella parakeet, *Platycercus eximius*; demoiselle crane, *Anthropoides virgo*; love bird, *Agapornis cana*; 2 specimens of roseate tern, *Sterna dougalli*; 2 specimens of bleeding-heart pigeon, *Phlogoenas luzonica*; grass parakeet, *Melospittacus undulatus*; paradise whydah finch, *Vidua paradisea*; Amazon parrot, *Amazona ochroptera*; Australian thick-knee, *Burhinus gallarius*; kea parrot, *Nestor notabilis*; ruff, *Machetes pugnax*; sarus crane, *Grus antigone*; red and blue macaw, *Ara chloroptera* (55091); skin and skull of Patagonian cavy, *Dolichotis patagonica* (55156); silver pheasant, *Gennæus nychthemus* (55185); prairie dog, *Cynomys ludovicianus* (55630); partridge, *Perdix perdix* (55635); 6 young bears, namely, 3 specimens of *Ursus kiddy-arctos*, 1 of *U. horribilis*, and 2 of *U. gyas-kiddy*; grizzly bear, *Ursus horribilis*; young buffalo, *Bison americanus*; lion, *Felis leo*; monkey, *Cercopithecus mona*; monkey, *Papio maimon*; 2 minks, *Mustela vison*; prairie dog, *Cynomys ludovicianus*; skull of reindeer, *Rangifer tarandus*; and skull of a moose, *Alces americanus* (55636); green parakeet, *Conurus holochlorus*; 2 specimens of demoiselle crane, *Anthropoides virgo*; European flamingo, *Phoenicopterus roseus*; 2 specimens of crested screamer, *Chauna cristata*; scaup duck, *Marila marila*; 3 specimens of European swan, *Cygnus gibbus*; bateleur eagle, *Terathopius ecaudatus* (55637).

SNYDER, C. P., Tofty, Alaska: Skull of an extinct horse and tooth of a mastodon, from Alaska (55021: loan).

SOWERBY, ARTHUR DE C., Tientsin, China: 24 mammals, 16 reptiles, and a bird, from northern Shan-si, China (54678); skins and skulls of 12 mammals from Mongolia (55070); 45 mammals and 9 birds, from China (55558). Collected for the Museum.

- SPATE, BENJAMIN F., Washington, D. C.: Specimen showing concretionary structure in iron ore (55103).
- SPENCER, EDWARD B. T., Grinnell College, Grinnell, Iowa: 26 samples of building and decorative stones collected in Rome (54562).
- SPRAGUE PUBLISHING COMPANY, Detroit, Mich.: Original painting for cover of "The American Boy," July, 1912, and a two-color proof of the same, in red and green; also 2 sheets showing eight pages of the magazine printed in red and in green, respectively (55604).
- SPRINGER, HON. FRANK, East Las Vegas, N. Mex.: About 500 specimens of Devonian and Lower Carboniferous mollusks from the Mississippi Valley (54583).
- STÄDTISCHES MUSEUM. (See under Weimar, Germany.)
- STANDLEY, PAUL C., U. S. National Museum: 89 plants from Maryland (54332); 1,050 plants from Greene County, Mo. (54522); pebble of granite with groove made by a primitive saw, collected by the donor near Pecos, N. Mex. (55096); 26 plants collected near Hampton, Va., by Mr. Standley and H. C. Bollman (55348).
- STATE, DEPARTMENT OF:
(See under Henry D. Baker, Fred'k. T. F. Dumont, Frederic W. Goding, W. Maxwell Greene, Augustus E. Ingram, Mason Mitchell, James L. Rodgers, and Albert Talken.)
Alaska Boundary Survey: 100 plants collected in Alaska by David W. Eaton, Surveyor, Alaskan Boundary (54807).
- STAUFFER, Prof. CLINTON R., Adelbert College, Western Reserve University, Cleveland, Ohio: 9 specimens of Devonian sponges from Ontario (54661).
- STALEY, WATTERSON, Washington, D. C.: Oil portrait of Henry Clay, by Jean Baptiste Adolphe Gibert (55281: loan).
- STEARNS, ELMER, El Paso, Tex.: 120 plants from Texas, Mexico, and New Mexico (54275; 54319; 54352; 54414; 54597).
- STEELE, E. S., U. S. National Museum: 63 plants from Ohio (54331); 529 plants from the eastern part of the United States (54654).
- STEGER, A. M., Shores, Va.: 5 living specimens of *Opuntia* from Virginia (55305).
- STEINER, JACOB, Brooklyn, N. Y.: One Sharps rifle with Maynard tape primer (54444).
- STEPHENS, FRANK, San Diego, Cal.: Lizard, *Xantusia picta*, from California (55129).
- STEPHENSON, L. W., U. S. Geological Survey, Washington, D. C.: About 200 specimens of Loess fossils from Arkansas (54983).
- STEVENS, O. A., Agricultural College, N. Dak.: 60 bees, including a paratype of *Nomada bilobata* and a paratype of *N. vicina stevensi* (55122; 55205).
- STOCKHOLM, SWEDEN, RIKSMUSEETS, BOTANISKA AFDELNING: 280 specimens of grasses from South America (54510: exchange).
- STREETER, D. D., Brooklyn, N. Y.: 4 mammals, 23 reptiles, and 4 fishes from Borneo (55230); 35 reptiles and batrachians, from Algeria and Sahara (55455).
- STRIEGEL, LA ROY M., Humboldt, Ariz.: Spider (54476).
- SUMMERS, EWING, Washington, D. C.: 9 specimens of *Acanthospermum* from the District of Columbia (54743).
- SUPERIOR THREAD AND YARN CO., New York City: Specimens illustrating the manufacture of ramie thread and yarn (54887).
- SWEENEY, THOMAS W., U. S. National Museum: Framed color-print of the Parthenon (54680).
- SWENK, M. H., University of Nebraska, Lincoln, Nebr.: 20 sawfly larvae (54475).
- SWIGGETT, H. L., Washington, D. C.: Living specimen of *Echeveria*, originally from Scotland (54636).

- SYDNEY, NEW SOUTH WALES, AUSTRALIA, AUSTRALIAN MUSEUM: Specimen of *Hoplichthys harwelli* (55594: exchange).
- SYDNEY, NEW SOUTH WALES, AUSTRALIA, BOTANIC GARDENS: 100 plants from Australia (55225: exchange).
- SYMONS, A. H., Supai, Ariz.: 4 living specimens of Cactaceae (55034).
- TABLER, Miss ELIZABETH D., U. S. National Museum: Daguerreotype of a man (54681).
- TALKEN, ALBERT, Windsorton, Cape Province, Union of South Africa (through Department of State): 8 stone implements found by the donor 24 feet beneath the surface near Windsorton, on the Vaal River (54988).
- TALKO-HRYNCEWICZ, Prof. J., Uniwersytet Jagiellonski, Krakow, Krakow, Galicia, Austria: 4 photographs of Siberian natives (54880); casts of skulls and lower jaws of Asiatic peoples, samples of hair of Poles and Lithuanians, and model of apparatus for aiding an infant to walk (55526: exchange).
- TARBOX, Mrs. MARY P., Westport, Me.: Larva of *Philampelus achemon* (54487).
- TAYS, E. A. H., San Blas, Sinaloa, Mexico: 11 plants from Mexico (54378; 54580).
- TELLER, EDGAR E., Milwaukee, Wis.: 200 Silurian fossils from Delafield, Wis. (55287).
- TERRY, J. E., Williamsburg, Ky.: 4 Maltese kittens in alcohol (55627).
- THACKERY, FRANK A., Sacaton, Ariz.: 25 specimens of desert plants (54792).
- THATCHER, AARON H., Washington, D. C.: An anvil which was in the possession of the Mormons at Nauvoo, Ill., many years previous to their journey to Salt Lake (54779: loan).
- THOMPSON, Dr. J. C., U. S. Navy, Sausalito, Cal.: About 617 insects, including 117 from Marin County, Cal. (55270; 55490); reptiles and batrachians from California (55414).
- THOMPSON, J. G., Petersburg, Va.: A piece of petrified wood from Chesterfield County, Va. (54486).
- THORNBURGH, VERN, Lincoln, Nebr.: Triangular pierced tablet of banded slate (55060: exchange).
- THRUSTON, R. C. BALLARD, Louisville, Ky.: 2 specimens of grass warbler, *Cisticola cisticola*, from Italy (54282); red-tailed hawk, *Buteo borealis* (54657).
- THUROW, F. W., Harvester, Tex.: 11 plants from Texas (54861).
- TIDESTROM, IVAR, U. S. Department of Agriculture, Washington, D. C.: 47 plants from Maryland, Virginia, and New Jersey (54655).
- TILDEN, Miss JOSEPHINE E., University of Minnesota, Minneapolis, Minn.: 125 plants from the south Pacific islands and 92 plants from Canada (54427: purchase).
- TILKIE, CHARLES M., Swastika, Canada: Specimen of silver ore from the Cobalt district, Canada (55628: exchange).
- TILLOTSON, Miss LOTTIE L., Halifax, Nova Scotia: 2 specimens of *Filipendula* from Nova Scotia (54415).
- TODD, AURELIUS, Ocosingo, Chiapas, Mexico: 10 fossils and about 100 specimens (representing 7 species) of freshwater shells from Mexico (54687); 2 small lots of Oligocene fossils and about 50 specimens of recent shells, *Pachychilus planensis*, from Mexico (55298).
- TONDUZ, A., San José, Costa Rica: 2 living specimens of *Pereskia* from Costa Rica (54271: exchange); a living specimen of cactus from Costa Rica (55425).
- TORRE, Dr. CARLOS DE LA, Havana, Cuba: 117 specimens, representing 14 species (cotypes), of *Urocoptis* from Cuba (55094).
- TOWER, D. G., Agricultural Experiment Station, Mayaguez, P. R.: 10 paratypes of *Prospaltella perniciosi* (54982).
- TOWLES, W. H., Washington, D. C.: 6 flash-light photographs (54401).

TOWNSEND, C. H. T., Lima, Peru: 6 specimens of Cactaceæ and 2 snakes from Peru (55290; 55470; 55633); 3 pieces of fossil bones, 9 fossil shells, and 8 pieces of fossil wood, collected by Abelardo Alvarez Calderon in the vicinity of Nazca Valley, Peru (55541).

TREASURY DEPARTMENT:

A series of Confederate paper currency, comprising 140 specimens (54443); 2 sets of tea standards—for 1912-1913 and 1913-1914—received through the Supervising Tea Examiner (55578); 5 small lots of tin ore from North Carolina, collected by the late Dr. George B. Hanna, received through the Director of the Mint (55617).

TSUDA, N. (See under Baron Senge.)

TUCKER, MRS. JOHN SOUTHGATE, and Mrs. J. HOUGH COTTMAN, Washington, D. C. (through Mrs. Julian James and Mrs. R. R. Hoes): Dress and slippers of Martha King, worn at a ball when she danced with General Lafayette. Mrs. King was the wife of Capt. Miles King of the Continental Army, alderman and afterwards mayor of Norfolk, Va. (54790: loan).

TUCKERMAN, Miss EMILY, Washington, D. C.: 8 pieces of tapestry (54345; 55529); a mirror called a "trumeau," the upper part of which is a painting (54875); 2 pieces of Louis XIV embroidery and 1 piece of Louis XVI embroidery (55322). Loan.

TUCKERMAN, WALTER R., Washington, D. C.: Portrait, in oil, of Joseph Tuckerman, D. D., by Gilbert Stuart (55046: loan).

TÜRCKHEIM, Baron H. VON, Coban, Guatemala: 2 living specimens of Cactaceæ from Guatemala (55277).

TURNER, H. J. ALLEN, Nairobi, British East Africa: Skin and skull of an otter (54841); skin and skull of an otter, *Aonyx*, and skull of a badger, *Mellivora* (54918).

TWNING, S. B., AND COMPANY, Stockton, N. J.: A five-inch cube of sandstone (55003).

ULRICH, MAX, San Francisco, Cal.: United States silver half-dollar used as an identification tag during the Civil War (54693).

UNDERWOOD, W. F., Capitol Heights, Md.: Ants' nest in a chestnut log (54801).

UNITED MINERAL COMPANY, South Danbury, N. H.: Specimen of garnet in gneiss (54313).

UNIVERSITETETS BOTANISKE MUSEUM. (See under Copenhagen, Denmark.)

UNIVERSITETETS ZOOLOGISKE MUSEUM. (See under Copenhagen, Denmark.)

UNIVERSITY BOTANIC GARDEN. (See under Cambridge, England.)

UPSALA, SWEDEN, BOTANISKA MUSEUM, UPSALA UNIVERSITETS: 500 plants from Sweden (55133: exchange).

URBAN, Dr. I., Dahlem bei Steglitz (Berlin), Germany: 310 plants collected in Santo Domingo by Padre Fuertes (54911: purchase).

VAN DUZEE, M. C., Buffalo, N. Y.: 2 specimens of *Agonosoma variegatum* (55462).

VAN HYNING, T., Fort Madison, Iowa: A collection of shells, mostly American, numbering approximately 48,180 specimens and representing about 70 species (55482).

VAN ROON, G., Rotterdam, Netherlands: About 150 specimens of Curculionidæ from the Indo-Malayan regions (55313: exchange).

VELDER, GEORGE, Carversville, Pa.: 3 specimens of Triassic plants from Carversville (54370).

VENICE MARINE BIOLOGICAL STATION, UNIVERSITY OF SOUTHERN CALIFORNIA, Venice, Cal.: 10 crabs (54722); 10 specimens, representing 3 species, of annelids (55338).

VERA, Mrs. IRENE, San Luis Potosi, Mexico: 7 living specimens of Cactaceæ, from central Mexico (54464); 2 living specimens of *Opuntia* and 2 of *Cereus*, from near San Luis Potosi (54695).

VERCO, Dr. J. C., Adelaide, South Australia: 12 species of shells from Australia, cotypes of species described by the donor (55082).

VERNER, S. P., Isthmian Canal Commission, Bas Obispo, Canal Zone: 9 living specimens of Cactaceæ (54598; 55038).

VICTORIA AND ALBERT MUSEUM. (See under London, England.)

VIENNA, AUSTRIA, K. K. NATURHISTORISCHES HofMUSEUM: 100 plants, comprising Century 20 of "Kryptogamæ Exsiccatae" (54958: exchange).

VIETT, GEORGE F., Norfolk, Va.: A sale catalogue of historical relics and a collection of early photographs (54836).

VILLA, A. P., AND BROS., New York City: 22 samples of raw silk (54849).

VUILLET, A., Paris, France: About 40 specimens of reared parasitic Hymenoptera from Haut Senegal-Niger (54662).

WALKER, BRYANT, Detroit, Mich.: 4 specimens, representing 2 species, of fresh-water mollusks, *Ancylus*, from South Africa (54307); specimen of *Diplodon fonckii* from the Chalchal River, Imperial, Chile (54612); 2 specimens of *Diplodon hartwrighti* from the Amazon River, Brazil (from the Wright collection) (54998).

WALKER, Mrs.* SOPHIE LIEBENAU, Alexandria, Va.: Collection of relics of the von Liebenau family of Württemberg, Germany, and its descendants in America (55051).

WALLACE, Mrs. R. M., Forest Hill, Md.: Specimen of walking-stick, *Diapheromera veliei* (54428).

WALLIS, WILLIAM. (See under William Palmer and A. C. Weed.)

WALTON, W. R., U. S. Department of Agriculture, Washington, D. C.: Type and allotype of *Microdon craigheadii* (55125).

WAR DEPARTMENT:

Plaster model of the statue of Rear Admiral Charles H. Davis, U. S. Navy, by Frank E. Elwell, from which was cast the bronze statue for the Vicksburg National Military Park (55010).

WAR DEPARTMENT—Continued.

Army Medical Museum: An artistically tattooed head of a New Zealander (54930: exchange).

Office of the Chief of Ordnance: A copper powder flask with carrying-strap and 2 British Tower rifles, 1862, received from the Watertown Arsenal, Boston, Mass. (54445); military firearms, swords, etc., 43 objects, formerly in the museum of the U. S. Soldiers' Home, Washington, D. C. (54537).

WARD, Mrs. COONLEY, Wyoming, N. Y.: 18 specimens of meteorites (55600: purchase).

WARD, ROWLAND, LTD., London, England: Skin, skull and skeleton of a mounted male okapi (55585: purchase).

WARD'S NATURAL SCIENCE ESTABLISHMENT, Rochester, N. Y.: Cast of skull of *Glyptodon* (55542: purchase).

WARNER, S. P., American consul, Harbin, Manchuria: 6 bird skins from Bahia, Brazil (55045).

WARREN, ERNEST M., St. Maries, Idaho: A worm of the family Gordiidae (55486).

WASHINGTON, CHARLES S., U. S. National Museum: Parasitic worm, *Ascaris suum*, from the intestines of a hog (55465).

WATERS, Dr. C. E., Bureau of Standards, Washington, D. C.: Specimen of *Sarracenia* from Maryland (54523).

WAYNE, ARTHUR T., Mt. Pleasant, S. C.: Copperhead snake, *Agkistrodon contortrix* (54350); specimen of king rail, *Rallus elegans*, and skin of a black-bellied plover, *Squatarola squatarola*, from South Carolina (55355; 55516). Exchange.

WEED, A. C., U. S. National Museum: Snake, *Storeria dekayi*, from North Rose, N. Y. (54592); fishes from the vicinity of the District of Columbia (55372). (See under William Palmer.)

WEED, A. C., and W. L. McATEE: Fishes from the Potomac River in the vicinity of Plummers Island (54507).

WEED, A. C., and ERNEST B. MARSHALL: Fishes, insects and a crayfish, from Indian Creek, Md. (54363).

- WEIGEL, THEODOR OSWALD**, Leipzig, Germany: 300 specimens of *Salix* from Europe (Toepffer, *Salicetum Exsiccatum*, Fasc. 1-7) (54970: purchase).
- WEIMAR, GERMANY, STÄDTISCHES MUSEUM**: Archeological material from the caverns of Taubach, Germany (55436: exchange).
- WEINGART, W.**, Georgenthal, Thüringen, Germany: Living specimen of cactus from Mexico (55459).
- WELLS, MRS. HENRY**, Washington, D. C.: An oil painting, a copy of Murillo's "The Beggars" (55514); Revolutionary sword, letters, etc.; also a collection of old prints, and an atlas of 1806 (55520). Loan.
- WERTH, MRS. MARY MAURY**, Richmond, Va.: Gold electrotype of the gold medal awarded by Oscar I, King of Sweden and Norway, to Matthew Fontaine Maury, in recognition of his services to the science of navigation, obtained through the courtesy of Miss Ann H. Maury of Richmond (55519). (See under Commander Matthew Fontaine Maury, U. S. Navy, Descendants of.)
- WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION**, Morgantown, W. Va.: A collection of about 15,000 forest insects and their work, together with a large quantity of notes, special records, manuscripts, etc. (54640: deposit).
- WETMORE, HON. GEORGE PEABODY**, Washington, D. C.: Oil painting, "Versailles," by Constant Wauters, and a water color, "Military Review," by Edouard Detaille (55504: loan).
- WETMORE, MAJ. WILLIAM BOERUM**, Washington, D. C.: Historical material, including 2 paintings in oil, a "Portrait of George Peabody," by Lowes Dickinson, and "Held up," by N. H. Trotter; also ethnological, biological and paleontological material (55163); an engraving and 3 water colors (55383).
- WHEELER, MRS. C. F.**, Lanham, Md.: 125 plants from various localities (55202).
- WHERRY, PROF. EDGAR T.**, Lehigh University, South Bethlehem, Pa.: Specimen of rutile in quartz (55146).
- WHITE, DAVID**, U. S. Geological Survey, Washington, D. C.: A carboniferous fossil plant from Perry Park, Colo. (54426).
- WHITE, H. T.**, Sudbury, Ontario, Canada: 12 bottles of fresh-water bryozoans from Canada (54910).
- WHITE, DR. I. C.**, State Geologist, Morgantown, W. Va.: A calcareous concretion thrown out from a Mexican oil well (54924).
- WHITE, MRS. JOHN JAY**, Washington, D. C.: Papillon ring and an Egyptian god mounted as a necklace (54750); a wide flounce of point d'Alençon lace, in 3 pieces, also 3 large and 7 small waist pieces of the same lace (54752: loan.)
- WHITTALL, M. J.**, Worcester, Mass.: Photographs and specimens illustrating the manufacture of Wilton and Brussels rugs and carpets (54997).
- WHITTIER, M. S.**, Deputy Collector of Customs, Ketchikan, Alaska: Specimen of basket-fish, *Gorgonocephalus caryi*, from Prince William Sound, Alaska (55055).
- WIEDMER, JOHN**, St. Louis, Mo.: Skull of a musk-ox and tooth of a mastodon, a spearhead, arrowpoint, and a drill, found in a peat or muck field at Manito, Ill. (55407).
- WILCOX, MISS F. E.**, Washington, D. C.: Indian pottery from Arizona, consisting of 1 specimen from the Mohave and 6 specimens from the Pima Indians (54726); an ancient Indian (Pima-Papago?) shell bracelet found in a mound south of Tucson, Ariz. (55419).
- WILCOX, BRIG. GEN. TIMOTHY E.**, U. S. Army (retired), Washington, D. C.: A pair of horns of the mountain goat (54855); specimen of *Aralia* from the District of Columbia (55296); specimen of *Potamogeton* from Maryland (55442).
- WILCOX, MRS. TIMOTHY E.**, Washington, D. C.: A Zuzii water jar (54603).
- WILLIAMS, FRANCIS X.**, University of Kansas, Lawrence, Kans.: 2 specimens of *Rehnia victorix* (55228); 18 specimens of Diptera (55369). Exchange.

- WILLIAMS, Miss MARY H., Washington, D. C.: Red velvet cope, Spanish, 16th century; 3 pieces of brocade, 17th century; piece of red silk; and 2 pieces of red velvet (55325: loan).
- WILLIAMS, R. S., New York Botanical Garden, Bronx Park, New York City: Specimen of *Encelia pilocarpa* from Peru (55574).
- WILLIAMS, THOMAS E., Arvonion, Va. (through T. Nelson Dale, U. S. Geological Survey, Washington, D. C.): 2 slabs containing fossil crinoids (54336).
- WILLIAMSON, E. B., Bluffton, Ind. (through Philip P. Calvert): 39 neotropical dragonflies (54323: exchange); 38 specimens, representing 16 species, of dragonflies from Guatemala, and 7 specimens, representing 4 species, of dragonflies from the United States (54489).
- WILLIS, BAILEY, Washington, D. C.: 125 specimens of *Sphaerium*, *Planorbis*, and *Lymnea*, from Laguna N-huan Maquin chao, Rio Negro, Argentina (54285).
- WILMER, Col. L. WORTHINGTON, Lothian House, Ryde, England: 125 specimens of fossil shells from the Isle of Wight, 26 specimens of recent shells from the Isle of Wight and Jamaica, and 6 plants (54913).
- WINKLEY, Rev. HENRY W., Danvers, Mass.: 6 specimens of *Odostomia (Evala) bartschi* from Woods Hole, Mass. (54365); sample of siftings containing crustaceans, from Quohog Bay, Me. (54478).
- WINTHROP, Hon. BEEKMAN, Washington, D. C.: Filipino rain coat (55160).
- WONALANCET COMPANY, Nashua, N. H.: 9 samples of Peruvian and China raw and carded cotton (55402).
- WOOD, N. R., U. S. National Museum: Crayfishes and spiders, from Florida (55197).
- WOODWARD, S. W. (See under Egypt Exploration Fund.)
- WOOLLEY, CLAUDE L., Baltimore, Md.: A horizontal bronze sundial adapted to the latitude of Aberdeen, Scotland (54544); a horizontal aluminum sundial for the latitude of Constantinople, Turkey (54965).
- WOOTON, Prof. E. O., U. S. Department of Agriculture, Washington, D. C.: 10,000 plants chiefly from New Mexico (55348: purchase).
- WRIGHT, W. S., San Diego, Cal.: About 198 Lepidoptera (55209).
- WURZLOW, E. C., Houma, La.: Living specimen of *Hymenocallis* collected near Houma (55410); 4 living specimens of *Opuntia* from Louisiana (55543).
- WYOMING, UNIVERSITY OF, Laramie, Wyo.: 721 plants from Idaho (54968: exchange).
- YANKEE CONSOLIDATED MINING COMPANY, Salt Lake City, Utah (through Victor C. Heikes, U. S. Geological Survey): 4 specimens of zinc ore from the Tintic Mining District, Utah (55302); an exhibition specimen of calamine from the Yankee Consolidated Mine, Eureka, Utah (54434). (See under B. N. Lehman.)
- YELLOWSTONE NATIONAL PARK, Yellowstone Park, Wyo. (See under Interior, Department of.)
- YOTHERS, M. A., Agricultural Experiment Station, Pullman, Wash.: 10 specimens of *Panscopus equalis* (54467).
- YOUNG, JAMES HAY, Meredith, Victoria, Australia: 14 specimens, representing 9 species, of Ordovician graptolites from Australia; also Australian land and fresh-water shells, representing 32 species (55141); Tertiary fossils, representing 35 species, from Australia (55615). Exchange.
- ZACHARIE, Dr. CHARLES C., White Plains, N. Y.: A long black bow of the Indians of Brazil near the Amazon River (55334).
- ZUMBRUN, FRED., Fort Klamath, Oreg.: Braincase of a deer (55221).

**LIST OF PUBLICATIONS OF THE U. S. NATIONAL MUSEUM
ISSUED DURING THE FISCAL YEAR 1912-1913, AND OF
PAPERS PUBLISHED ELSEWHERE WHICH RELATE TO
THE COLLECTIONS.**

PUBLICATIONS OF THE MUSEUM.

PROCEEDINGS.

Smithsonian Institution | United States
National Museum | — | Proceedings |
of the | United States National Museum
| — | Volume 42 | — | (Seal) | Wash-
ington | Government Printing Office |
1912

8vo., pp. i-xiv, 1-675, pls.
1-76, 100 figs., 1 map.

Smithsonian Institution | United States
National Museum | — | Proceedings |
of the | United States National Museum
| — | Volume 43 | — | (Seal) | Wash-
ington | Government Printing Office |
1913

8vo., pp. i-xi, 1-669, pls.
1-46, 48 figs.

BULLETINS.

Smithsonian Institution | United States
National Museum | Bulletin 79 | — |
List of North American Land Mam-
mals in the United States | National
Museum, 1911 | — | By | Gerrit S.
Miller, jr. | Curator, Division of
Mammals, United States | National
Museum | (Seal) | Washington | Gov-
ernment Printing Office | 1912

8vo., pp. i-xiv, 1-455.

Smithsonian Institution | United States
National Museum | Bulletin 81 | — |
Synopsis of the Rotatoria | By | Harry
K. Harring | Of the United States
Bureau of Standards, Washington,
D. C. | (Seal) | Washington | Govern-
ment Printing Office | 1913

8vo., pp. 1-226.

PAPERS PUBLISHED IN SEPARATE FORM.

FROM VOLUME 42 OF THE PROCEEDINGS.

No. 1907. New cyclogasterid fishes from
Japan. By C. H. Gilbert
and C. V. Burke. pp. 351-
380, pls. 41-48, figs. 1-18.

No. 1908. Some new Mollusca from the
Silurian formations of
Washington County, Maine.
By Henry Shaler Williams.
pp. 381-398, pls. 49, 50.

No. 1909. Japanese shore fishes collected
by the United States Bureau
of Fisheries steamer "Alba-
tross" Expedition of 1906.
By John Otterbein Snyder.
pp. 399-450, pls. 51-61, 2 figs.

No. 1910. Notes on African Orthoptera of
the families Mantidae and
Phasmidae in the United
States National Museum,
with descriptions of new
species. By James A. G.
Rehn. pp. 451-475, figs.
1-17.

No. 1911. Description of a new terrestrial
isopod belonging to the genus
Cubaris from Panama. By
Harriet Richardson. pp.
477-479, figs. 1, 2.

No. 1912. A new discodrilid worm from
Colorado. By Max M. Ellis.
pp. 481-486, figs. 1-5.

- No. 1913. The fishes of Okinawa, one of the Riu Kiu Islands. By John Otterbein Snyder. pp. 487-519, pls. 62-70.
- No. 1914. Descriptions of two new parasitic isopods belonging to the genera *Palagyge* and *Probopyrus* from Panama. By Harriet Richardson. pp. 521-524, figs. 1-8.
- No. 1915. Descriptions of two new species of fishes from Honolulu, Hawaii. By David Starr Jordan and Charles William Metz. pp. 525-527, pl. 71.
- No. 1916. A revision of the subspecies of the green heron (*Butorides virescens* [Linnaeus]). By Harry C. Oberholser. pp. 529-577.
- No. 1917. Description of a new family of pediculate fishes from Celebes. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 20.] By Hugh M. Smith and Lewis Radcliffe. pp. 579-581, pl. 72.
- No. 1918. Description of a new species of isopod belonging to the genus *Apseudes* from Ecuador. By Harriet Richardson. pp. 583-585, 1 fig.
- No. 1919. Notes on a collection of fishes from Java, made by Owen Bryant and William Palmer in 1909, with description of a new species. By Barton A. Bean and Alfred C. Weed. pp. 587-611, pls. 73-75, figs. 1-3.
- No. 1920. Contributions to our knowledge of bees and ichneumon-flies, including the descriptions of twenty-one new genera and fifty-seven new species of ichneumon-flies. By H. L. Viereck. pp. 613-648, figs. 1, 2.
- No. 1921. Model of a Brahmin temple. By Immanuel M. Casanowicz. pp. 649-653, pl. 76.
- No. 1922. Note on the generic name *Safole*, replacing *Boulengerina*, for a genus of KuhlIID fishes. By David Starr Jordan. p. 655.

FROM VOLUME 43 OF THE PROCEEDINGS.

- No. 1923. Descriptions of the Alcyonaria collected by the U. S. Fisheries steamer "Albatross," mainly in Japanese waters, during 1906. By Charles C. Nutting. pp. 1-104, pls. 1-21.
- No. 1924. Descriptions of a new family, two new genera, and twenty-nine new species of Anacanthine fishes from the Philippine Islands and contiguous waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 21.] By Lewis Radcliffe. pp. 105-140, pls. 22-31, figs. 1-11.
- No. 1925. Studies in the woodwasp superfamily *Oryssoidae*, with descriptions of new species. By S. A. Rohwer. pp. 141-158, pls. 32, 33, figs. 1-6.
- No. 1926. Descriptions of two new isopods, an *Apseudes* and a *Munnopsis*, both from the Galapagos Islands. By Harriet Richardson. pp. 159-162, figs. 1-4.
- No. 1927. Descriptions of new Hymenoptera, No. 5. By J. C. Crawford. pp. 163-188, figs. 1, 2.
- No. 1928. Dragon flies of the Cumberland Valley in Kentucky and Tennessee. By Charles Branch Wilson. pp. 189-200.

- No. 1929. Descriptions of a new genus of isopod crustaceans, and of two new species from South America. By Harriet Richardson. pp. 201-204, figs. 1, 2.
- No. 1930. Notes on sawflies, with descriptions of new species. By S. A. Rohwer. pp. 205-251, figs. 1-6.
- No. 1931. Preliminary account of one new genus and three new species of Medusæ from the Philippines. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 22.] By Henry B. Bigelow. pp. 253-280.
- No. 1932. Names applied to the eucerine bees of North America. By T. D. A. Cockerell. pp. 261-273.
- No. 1933. Bryozoa from Labrador, Newfoundland, and Nova Scotia, collected by Dr. Owen Bryant. By Raymond C. Osburn. pp. 275-289, pl. 34.
- No. 1934. New American dipterous insects of the family Pipunculidæ. By J. R. Malloch. pp. 291-299, 1 fig.
- No. 1935. Descriptions of new genera and species of muscoid flies from the Andean and Pacific Coast regions of South America. By Charles H. T. Townsend. pp. 301-367.
- No. 1936. Notes on certain amphipods from the Gulf of Mexico, with descriptions of new genera and new species. By Arthur S. Pearse. pp. 369-379, figs. 1-8.
- No. 1937. The crinoids of the Museum fuer Naturkunde, Berlin. By Austin Hobart Clark. pp. 381-410.
- No. 1938. The insects of the dipterous family Phoridae in the United States National Museum. By J. R. Malloch. pp. 411-529, pls. 35-41.
- No. 1939. A revision of the forms of the great blue heron (*Ardea herodias* Linnæus). By Harry C. Oberholser. pp. 531-559.
- No. 1940. Notes on the occurrence of the crustacean *Alonopsis* in America, with description of a new species. By Alfred A. Doolittle. pp. 561-565, pls. 42, 43.
- No. 1941. A new genus and six new species of fishes of the family Cyclogasteridæ. By Charles Victor Burke. pp. 567-574.
- No. 1942. Descriptions of one new family, eight new genera, and thirty-three new species of ichneumon-flies. By H. L. Viereck. pp. 575-593.
- No. 1943. A newly found meteoric iron from Perryville, Perry County, Missouri. By George P. Merrill. pp. 595-597, pls. 44, 45.
- No. 1944. Four new genera and fifty-eight new species of starfishes from the Philippine Islands, Celebes, and the Moluccas. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 23.] By Walter K. Fisher. pp. 599-648.
- No. 1945. One new genus and eight new species of dipterous insects in the United States National Museum collection. By J. R. Malloch. pp. 649-658, pl. 46.

FROM VOLUME 44 OF THE PROCEEDINGS.

- No. 1946. *Medusæ and Siphonophoræ* collected by the U. S. Fisheries steamer "Albatross" in the northwestern Pacific, 1906. By Henry B. Bigelow. pp. 1-119, pls. 1-6, figs. 1, 2.
- No. 1947. Descriptions of new species of saturnian moths in the collection of the United States National Museum. By Harrison G. Dyar. pp. 121-134.
- No. 1948. Descriptions of seven new genera and thirty-one new species of fishes of the families Brotulidæ and Carapidæ from the Philippine Islands and the Dutch East Indies. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 24.] By Lewis Radcliffe. pp. 135-176, pls. 7-17.
- No. 1949. Results of the Yale Peruvian Expedition of 1911. Orthoptera (Acrididæ—short-horned locusts). By Lawrence Bruner. pp. 177-187.
- No. 1950. Crustacean parasites of West Indian fishes and land crabs, with descriptions of new genera and species. By Charles Branch Wilson. pp. 189-277, pls. 18-53.
- No. 1951. Descriptions of new Lepidoptera, chiefly from Mexico. By Harrison G. Dyar. pp. 279-324.
- No. 1952. A newly found meteorite from near Cullison, Pratt County, Kansas. By George P. Merrill. pp. 325-330, pls. 54, 55.
- No. 1953. A revision of the South American dipterous insects of the family Ptychopteridæ. By Charles P. Alexander. pp. 331-335, figs. 1-3.
- No. 1954. Terrestrial isopods collected in Costa Rica by Mr. Picado, with the description of a new genus and species. By Harriet Richardson. pp. 337-340, figs. 1-5.
- No. 1955. Some fossil insects from Florissant, Colorado. By T. D. A. Cockerell. pp. 341-346, pl. 56, figs. 1-3.
- No. 1956. Results of the Yale Peruvian Expedition of 1911. Orthoptera (exclusive of Acrididæ). By A. N. Caudell. pp. 347-357.
- No. 1957. Description of *Anguilla manabei*, a new eel from Japan. By David Starr Jordan. pp. 359, 360, pl. 57.
- No. 1958. Descriptions of new species of American flies of the family Borboridæ. By J. R. Malloch. pp. 361-372.
- No. 1959. The sipunculids of the eastern coast of North America. By John Hiram Gerould. pp. 373-437, pls. 58-62, figs. 1-16.
- No. 1960. Results of the Yale Peruvian Expedition of 1911. Hymenoptera, superfamilies Vespoidea and Sphecoidea. By S. A. Rohwer. pp. 439-454, fig. 1.
- No. 1961. Notes on *Ranzania makua* Jenkins and other species of fishes of rare occurrence on the California coast. By John Otterbein Snyder. pp. 455-460, pl. 63.
- No. 1962. Two new species of Diptera in the United States National Museum collection. By J. R. Malloch. pp. 461-463.
- No. 1963. Descriptions of two new fishes of the genus *Triglopus* from the Atlantic coast of North America. By Charles H. Gilbert. pp. 465-468, pl. 64.

- No. 1964. Results of the Yale Peruvian Expedition of 1911. Hymenoptera—Ichneumonidae. By H. L. Viereck. pp. 469, 470.
- No. 1965. A synopsis of the American minks. By N. Hollister. pp. 471-480.
- No. 1966. A synopsis of part of the neotropical crane-flies of the subfamily Limnobiinae. By Charles P. Alexander. pp. 481-549, pls. 65-68.
- No. 1967. Description of a new species of actinian of the genus *Edwardiella* from southern California. By J. Playfair McMurrich. pp. 551-553, fig. 1.
- No. 1968. Descriptions of ten new genera and twenty-three new species of ichneumon-flies. By H. L. Viereck. pp. 555-568.
- No. 1969. Notes on some fossil horses, with descriptions of four new species. By Oliver P. Hay. pp. 569-594, pls. 69-73, figs. 1-28.
- No. 1970. Notes on nearctic orthopterous insects. I. Nonsaltatorial forms. By A. N. Caudell. pp. 595-614, figs. 1-27.
- No. 1971. Descriptions of new species of crabs of the family Ocypodidae. By Mary J. Rathbun. pp. 615-620, pls. 74-76.
- No. 1972. Notes on some American Diptera of the genus *Fannia*, with descriptions of new species. By J. R. Malloch. pp. 621-631, pl. 77.
- No. 1973. New Textulariidae and other arenaceous Foraminifera from the Philippine Islands and contiguous waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 25.] By Joseph A. Cushman. pp. 633-638, pls. 78-80.
- No. 1974. Descriptions of six new genera and twelve new species of ichneumon-flies. By H. L. Viereck. pp. 639-648.
- No. 1975. A recently mounted zeuglodon skeleton in the United States National Museum. By James W. Gidley. pp. 649-654, pls. 81, 82, figs. 1-3.

FROM VOLUME 45 OF THE PROCEEDINGS.

- No. 1977. A systematic monograph of the chalcidoid Hymenoptera of the subfamily Signiphorinae. By A. Arsène Girault. pp. 189-233.
- No. 1978. The giant species of the molluscan genus *Lima* obtained in Philippine and adjacent waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 26.] By Paul Bartsch. pp. 235-240, pls. 12-20.
- No. 1979. Descriptions of new Hymenoptera, No. 6. By J. C. Crawford. pp. 241-280.
- No. 1980. A fossil flower from the Eocene. By Edward W. Berry. pp. 261-263, pl. 21, 1 fig.
- No. 1981. A synopsis and descriptions of the nearctic species of sawflies of the genus *Xyela*, with descriptions of other new species of sawflies. By S. A. Rohwer. pp. 265-281, 1 fig.
- No. 1982. Fossil Coleoptera from Florissant in the United States National Museum. By H. F. Wickham. pp. 283-303, pls. 22-26.

- No. 1983. The Philippine mollusks of the genus *Dimya*. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 27.] By Paul Bartsch. pp. 305-307, pls. 27, 28.
- No. 1984. Descriptions of new Hymenoptera, No. 7. By J. C. Crawford. pp. 309-317, 1 fig.
- No. 1986. New parasitic Hymenoptera belonging to the tribe Xoridini. By S. A. Rohwer. pp. 353-361.
- No. 1987. Three interesting butterflies from eastern Massachusetts. By Austin Hobart Clark. pp. 363, 364, pl. 32.
- No. 1988. Miscellaneous contributions to the knowledge of the weevils of the families Attelabidæ and Brachyrhinidæ. By W. Dwight Pierce. pp. 365-426.
- No. 1989. The simple ascidians from the northeastern Pacific in the collection of the United States National Museum. By William E. Ritter. pp. 427-505, pls. 33-36.
- No. 1990. Mammals collected by the Smithsonian-Harvard Expedition to the Altai Mountains, 1912. By N. Hollister. pp. 507-532, pls. 37-42.
- No. 1991. Descriptions of thirteen new species of parasitic Hymenoptera and a table to certain species of the genus *Ecphyllus*. By S. A. Rohwer. pp. 533-540.
- No. 1992. Results of the Yale Peruvian Expedition of 1911.—Batrachians and reptiles. By Leonhard Stejneger. pp. 541-547.
- No. 1993. New land shells from the Philippine Islands. By Paul Bartsch. pp. 549-553, pl. 43.
- No. 1994. Description of a new fossil fern of the genus *Gleichenia* from the Upper Cretaceous of Wyoming. By Frank H. Knowlton. pp. 555-558, pl. 44.
- No. 1995. The isopod genus *Ichthyoxenus* Herklots, with description of a new species from Japan. By Harriet Richardson. pp. 559-562, figs. 1-6.
- No. 1996. Some new Hawaiian cephalopods. By S. Stillman Berry. pp. 563-566.
- No. 1997. The Hemiscylliid sharks of the Philippine Archipelago, with description of a new genus from the China Sea. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 28.] By Hugh M. Smith. pp. 567-569, pl. 45, figs. 1, 2.
- No. 1998. Notes on a small collection of amphipods from the Pribilof Islands, with descriptions of new species. By A. S. Pearse. pp. 571-573, figs. 1, 2.
- No. 1999. Description of the Yachats "Smelt," a new species of Atherinoid fish from Oregon. By David Starr Jordan and John Otterbein Snyder. pp. 575, 576, pl. 46.
- No. 2000. Two fossil insects from Florissant, Colorado, with a discussion of the venation of the Aeshnine dragon-flies. By T. D. A. Cockerell. pp. 577-583, figs. 1-3.
- No. 2001. Results of the Yale Peruvian Expedition of 1911. Orthoptera (Addenda to the Acrididæ—short-horned locusts). By Lawrence Bruner. pp. 585, 586.
- No. 2002. Diagnoses of new shells from the Pacific Ocean. By William Healey Dall. pp. 587-597.

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| <p>No. 2003. Description of a new carcharioid shark from the Sulu Archipelago. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 29.] By Hugh M. Smith. pp. 599-601, pl. 47, figs. 1-3.</p> | <p>No. 2904. Three new species of Anthomyiidae (Diptera) in the United States National Museum collection. By J. R. Malloch. pp. 603-607.</p> |
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FROM VOLUME 16 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

Part 3. The North American species of *Nymphæa*. By Gerrit S. Miller, jr., and Paul C. Standley. pp. i-ix, 63-108, pls. 35-47, figs. 2-40.

Part 4. Descriptions of new plants preliminary to a report upon the flora of New Mexico. By E. O. Wootton and Paul C. Standley. pp. i-xi, 109-196, pls. 48-50.

Part 5. Miscellaneous papers: Supplementary notes on American species of *Festuca*. By Charles V. Piper. pp. 197-199. *Delphinium simplex* and its immediate allies. By Charles V. Piper. pp. 201-203. The identity of *Heuchera cylindrica*. By Charles V. Piper. pp. 205, 206. New or noteworthy species of Pacific Coast plants. By Charles V. Piper. pp. 207-210. The American species of *Meibomia* of the section *Nephromeria*. By J. N. Rose and Paul C. Standley. pp. 211-216, pl. 51. *Raimondia*, a new genus of *Annonaceæ* from Colombia. By W. E. Safford. pp. 217-219, pls. 52, 53. Four new species of goldenrod from the eastern United States. By E. S. Steele. pp. 221-224.

Part 6. Three new genera of stilt palms (*Iriarteaceæ*) from Colombia, with a synoptical review of the family. By O. F. Cook and C. B. Doyle. pp. i-vii, 225-238, pls. 54-65, fig. 41.

Part 7. Studies in *Cactaceæ*—I. By N. L. Britton and J. N. Rose. pp. i-v, 239-242, pls. 66-73.

Part 8. Relationships of the false date palm of the Florida Keys, with a synoptical key to the families of American palms. By O. F. Cook. pp. i-vii, 243-254, pls. 74-77.

Part 9. The genus *Epiphyllum* and its allies. By N. L. Britton and J. N. Rose. pp. i-vii, 255-262, pls. 78-84.

FROM VOLUME 17 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

Part 1. The lichen flora of southern California. By Hermann Edward Hasse. pp. i-xii, 1-132.

Part 2. Studies of tropical American ferns—No. 4. By William R. Maxon. pp. i-x, 133-179, pls. 1-10, figs. 1-7.

CLASSIFIED LIST OF PAPERS BASED WHOLLY OR IN PART ON THE NATIONAL COLLECTIONS.

ANTHROPOLOGY.

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| <p>CASANOWICZ, IMMANUEL M. Model of a Brahmin temple.
<i>Proc. U. S. Nat. Mus.</i>, 42, No. 1921, Aug. 30, 1912, pp. 649-653, pl. 76.
A description of the model and brief discussion of the three leading styles of Hindu temple architecture.</p> | <p>HOLMES, W. H. Stone implements of the Argentine littoral.
<i>Bull. 58, Bur. Amer. Eth.</i>, 1912, pp. 125-151, pls. 13-15, and figs. 3-42 (Part of "Early Man in South America" by Aleš Hrdlička).</p> |
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HOLMES, W. H.—Continued.

The relics of stone and clay collected by Dr. Aleš Hrdlička and Dr. Bailey Willis, and numbering about 1,500 specimens, are classified and described, and their technic, ethnic, and chronologic place is carefully considered with the result that none of the forms are found to present characteristics which should distinguish them from corresponding relics of the historic aborigines of Argentina, and that none should, without further evidence than that so far available, be attributed to geological antiquity.

HRDLIČKA, ALEŠ. Artificial deformations of the human skull. With especial reference to America.

Actas del XVII Congreso Internacional de Americanistas. Sesión de Buenos Aires, 1912, pp. 147, 148.

Abstract of a communication delivered at the above-named session. Classifies in brief all artificial deformations of the skull; points to their causes and effects, and touches upon the distribution on the American continent of intentional deformation.

— Report on skeletal remains from a mound on Haley Place, near Red River, Miller County, Arkansas.

Journ. Acad. Nat. Sci., Phila., 14, pp. 639-640, 1 fig.

Describes a number of interesting crania and other parts of the skeleton recently donated to the National Museum by Mr. Clarence B. Moore. The skulls show artificial deformation of the flathead variety. They may, in part at least, represent a geographical extension of the Natchez people.

— Early man in South America.

Bull. 68, Bur. Amer. Eth., Aug. 30, 1912, pp. i-xv, 1-405, pls. 1-68, figs. 1-51.

This monograph, written in collaboration with W. H. Holmes, Bailey Willis, Fred. Eugene Wright and Clarence N. Fenner, and representing the results of two and a half years' work, gives the facts, as far as they could be ascertained, anthropological, archeological, geological, and otherwise, in regard to all the finds relating to early man in South America. It is shown that the voluminous testimony relied upon to establish the presence of geologically ancient man

HRDLIČKA, ALEŠ—Continued.

on the southern continent does not withstand searching criticism. The excavations, with one or two exceptions, were made by untutored men, who took no care to ascertain the exact conditions, and in numerous instances the specimens collected remained for years unnoticed. The burnt clays which were attributed to human activities are shown to have no necessary connection with man. Stone implements regarded as exceedingly primitive and ancient present no real claims to antiquity. As to the human skeletal remains, it appears that partial mineralization of bones has been given undue weight; and that defective or artificially deformed crania have been mistaken for normal and ancestral forms. On the whole, the conclusion is inevitable that thus far no specimen has been found which could well be accepted as representing any geologically ancient form of man in South America, or any other race than the Indian. The monograph ends with a complete bibliography of the subject.

— Early man in America.

Amer. Journ. Sci., 34, Dec. 1912, pp. 543-554.

Relates to the history of man in both Americas. It is shown that, so far as skeletal parts are concerned, no specimen has been found thus far which could be accepted as satisfactorily demonstrating the presence of man dating back of the present epoch, or representing any other type than the Indian.

— Remains in eastern Asia of the race that peopled America.

Smithsonian Misc. Colls., 60, No. 16, Dec. 31, 1912, pp. 1-5, pls. 1-3.

This paper gives in brief form the main results of the writer's observations on his recent trip to Siberia and Mongolia. The most important part of these observations relates to the finding, over extensive areas in eastern Asia, of remnants of a type of people who, in practically every respect, are identical physically with the American Indian. Besides the physical, there were also noticed many mental and ethnologic resemblances between the people met with in this part of Asia and the American aborigines. The paper points, finally, to the great field for exploration offered by eastern Asia.

HRDLIČKA, ALEŠ. Early man and his "Precursors" in South America.

Anatomischen Anzeiger, 43, No. 1, 1913, pp. 1-14.

Relates to researches concerning early man in South America. It shows the exceedingly weak basis on which rests the evidence of the presence of geologically ancient human or prehuman forms on that continent.

— An ancient sepulchre at San Juan Teotihuacan, with anthropological notes on the Teotihuacan people.

Reseña de la Segunda Sesión del XVII Congreso Internacional de Americanistas, México, 1912, pp. 3-7, 1 fig. (Reprint).

HRDLIČKA, ALEŠ—Continued.

A report on the excavation of a very interesting grave in the vicinity of the "Pyramid of the Sun" at San Juan Teotihuacan. Two skeletons belonging undoubtedly to the Teotihuacan people were discovered, with a number of archeological objects, in a circular fossa under a double cement floor. The interest in the burial lies in (1) the peculiar construction of the grave, (2) the fact that an adult man and an adult woman were buried together, suggesting sacrifice of the woman, (3) the fact that the crania show artificial head deformation of the flat-head type, and (4) the fact that the ancient occupants of Teotihuacan, or at least an important part of them, were of the brachycephalic type.

MAMMALS.

ANTHONY, H. E. Mammals of northern Malheur County, Oregon.

Bull. Amer. Mus. Nat. Hist., 32, Art. I, Mar. 7, 1913, pp. 1-27, pls. 1, 2.

Comparisons were made with material in the National Museum.

BAILEY, VERNON. Ten new mammals from New Mexico.

Proc. Biol. Soc. Washington, 26, May 21, 1913, pp. 129-134.

Describes *Eutamias atristriatus*, *Eutamias cinereicollis cinereus*, *Collopspermophilus lateralis arizonensis*, *Citellus variegatus juglans*, *Citellus tridecemlineatus hollisteri*, *Zapus luteus australis*, *Sigmodon minimus goldmani*, *Peromyscus limitis*, *Ochotona nigrescens* and *Sorex obscurus neomexicanus*, all new species and subspecies, in the collection of the Biological Survey, National Museum.

ELLIOTT, DANIEL GIRAUD. A review of the primates.

Monogr. I, Amer. Mus. Nat. Hist.

Vol. 1. Lemuroidea and Anthropoidea. pp. i-cxxvi, 1-317, 1-xxxviii, pls. 1-32.

Vol. 2. Anthropolidea (Continued). pp. 1-xviii, 1-382, 1-xxvi, pls. 1-39.

Vol. 3. Anthropolidea (Concluded). pp. 1-xiv, 1-262, 1-clxvii, pls. 1-39.

In the preparation of this work, the author studied material in the National Museum.

GOLDMAN, E. A. New mammals from eastern Panama.

Smithsonian Misc. Colls., 60, No. 2, Sept. 20, 1912, pp. 1-18.

Describes *Peromyscus melanops*, *Marmosa invicta*, *Microsciurus isthmicus vivatus*, *Peromyscus pirrensis*, *Neotomys pictus*, *Rhombomys raptor*, *Macrocomys dariensis*, *Heteromys crassirostris*, *Hydrochoerus isthmicus*, *Isoliriz darlingi*, *Sylvilagus gabbi meesortus*, *Ichtyon panamensis*, *Bassaricyon gabbi orinomus* and *Cryptotis merus*, new species and subspecies.

— A new peccary from Costa Rica.

Proc. Biol. Soc. Washington, 25, Dec. 24, 1912, pp. 189, 190.

Describes *Tayassu albirostris spiradens*, in the collection of the National Museum.

— Descriptions of new mammals from Panama and Mexico.

Smithsonian Misc. Colls., 60, No. 22, Feb. 28, 1913, pp. 1-20.

Describes *Bradypus ignavus*, *Mazama temia reperitica*, *Sciurus variabilis choco*, *Oryzomys pirrensis*, *Neotomys alfari efficax*, *Rhipidomys acandens*, *Heteromys australis consocius*, *Agouti paca nelsoni*, *Dasyprocta punctata dariensis*, *Dasyprocta punctata yucatanica*, *Dasyprocta punctata chiapensis*, *Potos flavus isthmicus*, *Euprocyon cancrivorus panamensis*, *A. bonatia pallidus inconsonans*, all new species and subspecies.

GOLDMAN, E. A. A new generic name for the Asiatic tapir.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 65, 66.

Proposes the name *A. crocodila*.

HELLER, EDMUND. New rodents from British East Africa.

Smithsonian Misc. Colls., 59, No. 16, July 5, 1912, pp. 1-20.

Describes *Protozomys stangeri* *bea*, *Graphiurus murinus johnstoni*, *Graphiurus murinus isolatus*, *Lophiomys thomasi*, *Otomys orestes dollmani*, *Dendromus mesomelas percevali*, *Dendromus whytei capitata*, *Lophuromys aquillus margarettæ*, *Epimys alleni kaimosæ*, *Epimys coucha neumani*, *Epimys coucha durumæ*, *Epimys latæ*, *Zelotomys hildegardæ vinaceus*, *Thomomys dolichurus littoralis*, *Lemnicomys pulchellus spermophilus*, *Pelomys fallax tridescens*, *Pelomys fallax concolor*, *Saccostomus isolæ*, *Cricetomys gambianus raineyi*, *Cricetomys gambianus engwii*, *Cricetomys gambianus osgoodi*, *Thryonomys gregorianus pusillus*, *Lepus raineyi* and *Lepus kakumegæ*.

— New genera and races of African ungulates.

Smithsonian Misc. Colls., 60, No. 8, Nov. 2, 1912, pp. 1-16.

Describes *Dolicohippus*, *Sigmoceros*, *Bubalis cokel kongoni*, *Bubalis nakusæ*, *Bubalis lelwel roosevelti*, *Beatragus*, *Sylviscapra grimmi roosevelti*, *Sylviscapra grimmi altitallis*, *Ourebia montana æquatoria*, *Oreodorcus ammela-phus* and *Nyala*.

— New races of insectivores, bats, and lemurs from British East Africa.

Smithsonian Misc. Colls., 60, No. 12, Nov. 4, 1912, pp. 1-13.

Describes *Galago moholicocos*, *Miniopterus natalensis arenarius*, *Pipistrellus aëro*, *Pipistrellus helios*, *Pachyura liza æquatoria*, *Pachyura infinitesima*, *Crocідura suahelæ*, *Crocідura turba lakundæ*, *Crocідura raineyi*, *Crocідura lutreola*, *Crocідura hildegardæ altæ*, *C. h. procera*, *Elephantulus rufescens mariakanz* and *Petromodromus sultani bengi*.

HOLLISTER, N. New mammals from the highlands of Siberia.

Smithsonian Misc. Colls., 60, No. 14, Nov. 29, 1912, pp. 1-6.

Describes the following new mammals collected by the Smithsonian-

HOLLISTER, N.—Continued.

Harvard expedition to the Altai Mountains: *Myopus morulus*, *Siciasta napæa*, *Allactaga griseescens*, *Phodopus crepidatus*, *Ochotona nitida*, *Mustela lymani* and *Myotis petax*.

— Five new mammals from Asia.

Proc. Biol. Soc. Washington, 25, Dec. 24, 1912, pp. 181-184.

Describes *Lepus aurigineus*, *L. quercerus*, *L. swinhoei sowerbyæ*, *L. brachyurus angustidens* and *Eutamias asiaticus altaicus*.

— The names of the Rocky Mountain goats.

Proc. Biol. Soc. Washington, 25, Dec. 24, 1912, pp. 185, 186.

Shows the proper specific name for the common Rocky Mountain goat to be *americanus*, dating from Blainville, 1816, and proposes the subspecific name *columbiæ* to replace *columbianus* Allen, preoccupied.

— On a specimen of *Ovis californiana* Douglas in the National Museum.

Proc. Biol. Soc. Washington, 25, Dec. 24, 1912, p. 187.

Remarks on the skin and skull of a specimen of this rare wild sheep, which was supposed to be unrepresented in museums.

— Two new polecats related to *Mustela larvata*.

Proc. Biol. Soc. Washington, 26, Jan. 18, 1913, pp. 1-4.

Describes *Mustela lineiventris* and *M. harrisi* from central Asia.

— Description of a new gazelle from northwestern Mongolia.

Smithsonian Misc. Colls., 60, No. 19, Feb. 8, 1913, pp. 1, 2.

Describes *Procapra altaica*; the type specimen was collected by Dr. Theodore Lyman in 1912.

— Mammals of the Alpine Club expedition to the Mount Robson region.

Canadian Alpine Journal, Special Number, 1912, (Feb. 17, 1913), pp. 1-44, pls. 1-13, map.

An annotated list of the species of mammals inhabiting the Canadian Rockies, Alberta and British Columbia, in the vicinity of Mount Robson; with critical notes on the specimens collected by the 1911 expedition of the Alpine Club of Canada.

HOLLISTER, N. Two new mammals from the Siberian Altai.

Smithsonian Misc. Colls., 60, No. 24, Mar. 13, 1913, pp. 1-3.

Describes *Apodemus nigritatus* and *Sorex roboratus*.

— The type species of *Cuniculus* Brisson.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, p. 79.

Fixes the type species of *Cuniculus* Brisson, 1762.

— A synopsis of the American minks.

Proc. U. S. Nat. Mus., 44, No. 1965, Apr. 13, 1913, pp. 471-480.

Revision of the forms of the American mink, with description, as a new subspecies, of *Mustela vison letifera* from the upper Mississippi valley.

— Two new Philippine fruit bats.

Proc. Biol. Soc. Washington, 26, May 3, 1913, pp. 111, 112.

Describes *Pteropus balutus* and *Pteropus mearnsi*, two species collected in the Philippine Islands by Dr. E. A. Mearns.

— Mammals collected by the Smithsonian-Harvard Expedition to the Altai Mountains, 1912.

Proc. U. S. Nat. Mus., 45, No. 1990, June 21, 1913, pp. 507-532, pls. 37-42.

Contains an account of the specimens collected by the expedition under the direction of Dr. Theodore Lyman during the summer of 1912.

— Two new bats of the genus *Taphozous*.

Proc. Biol. Soc. Washington, 26, June 30, 1913, pp. 157, 158.

Describes *Taphozous solifer* and *Taphozous cavaticus*, new species.

HOWELL, ARTHUR H. Description of a new weasel from Alabama.

Proc. Biol. Soc. Washington, 26, May 21, 1913, pp. 130, 140.

Describes *Mustela peninsularis olivacea*, a new subspecies, in the Biological Survey collection, National Museum.

JACKSON, HARTLEY H. T. Two new weasels from the United States.

Proc. Biol. Soc. Washington, 26, May 21, 1913, pp. 123, 124.

Describes *Mustela primulina* and *Mustela campestris*, new species in the Biological Survey collection, National Museum.

MERRIAM, C. HART. Six new ground squirrels of the *Citellus mollis* group from Idaho, Oregon and Nevada.

Proc. Biol. Soc. Washington, 26, May 21, 1913, pp. 135-138.

Describes *Citellus idahoensis*, *C. leurodon*, *C. canus vigilis*, *C. mollis attemsi*, *C. m. pessimus* and *C. m. washoensis*; all in the Biological Survey collection, National Museum.

MILLER, GERRIT S., jr. A new chamois from the Apennines.

Proc. Biol. Soc. Washington, 26, July 31, 1912, pp. 131-134.

Describes *Rupicapra saxula*, a new species.

— The new catalogue of Chiroptera in the British Museum.

Science (n. s.), No. 929, Oct. 18, 1912, pp. 525-527.

A review of the "Catalogue of the Chiroptera in the collection of the British Museum," second edition, by Knud Andersen. Vol. 1, Megachiroptera.

— Catalogue of the mammals of western Europe (Europe exclusive of Russia) in the collection of the British Museum.

Printed by order of the Trustees of the British Museum, London, Nov. 23, 1912, pp. i-xv and 1-1019, 213 figs.

Based largely on the European material (about 4,000 specimens) in the National Museum.

— List of North American land mammals in the United States National Museum, 1911.

Bull. U. S. Nat. Mus., No. 79, Dec. 31, 1912, pp. 1-455.

MILLER, GERRIT S., jr. Five new mammals from tropical America.

Proc. Biol. Soc. Washington, 26, Feb. 8, 1913, pp. 31-34.

Describes *Marmosa parui*, *Glossophaga rostrata*, *Brachyphyla minor*, *Ardops annectens*, *Promops pamana*, all new species.

—— A new Pteropine bat from Luzon.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 73, 74.

Describes *Eonycteris robusta*, a new species.

—— Some overlooked names of Sicilian mammals.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 80, 81.

Gives *Apodemus flavicollis rusiges* as new name for *Apodemus sylvaticus dichrurus*.

—— A new vole from eastern Mongolia.

Smithsonian Misc. Colls., 60, No. 28, Mar. 31, 1913, pp. 1, 2, pl. 1.

Describes *Microtus warringtoni*, a new species.

MILLER, GERRIT S., jr. A new shrew from Baltistan.

Proc. Biol. Soc. Washington, 26, May 3, 1913, pp. 113, 114.

Describes *Crocodylus pergriseus*, a new species.

—— A new cacomistle from Nevada.

Proc. Biol. Soc. Washington, 26, June 30, 1913, p. 159.

Describes *Basariscus astutus nevadensis*, a new subspecies.

OSGOOD, WILFRED H. New Peruvian mammals.

Field Mus. Nat. Hist., Pub. Zool., 10, No. 9, May 31, 1913, pp. 93-100.

In the preparation of this paper use was made of material in the National Museum.

TRUE, FREDERICK W. Diagnosis of a new beaked whale of the genus *Mesoplodon* from the coast of North Carolina.

Smithsonian Misc. Colls., 60, No. 25, Mar. 14, 1913, pp. 1, 2.

Describes *Mesoplodon mirum*, a new species.

BIRDS.

AMERICAN ORNITHOLOGISTS' UNION COMMITTEE ON NOMENCLATURE. Sixteenth supplement to the American Ornithologists' Union Check-list of North American Birds.

Auk, 29, No. 3, July, 1912, pp. 380-387.

A list of the rulings of the Committee, comprising 17 additions to the Check-list, and 24 proposed changes in nomenclature not accepted, made since the publication of the last supplement.

BANGS, OUTRAM. Some birds from the highlands of Siberia.

Bull. Mus. Comp. Zool., 54, No. 16, Jan., 1913, pp. 463-474, figs. 1-3.

Notes on 52 species collected in the Altai Mountains by the Smithsonian-Harvard expedition. *Falco esalon lymani*, *Pini colanucleator pacata* and *Perisoreus infaustus opicus* are described as new.

—— (See also under John E. Thayer.)

BEEBE, C. WILLIAM. New blood pheasants.

Zoologica, 1, No. 10, Aug. 17, 1912, pp. 189-193.

Ithaginis kuseri, and *I. cruentus affinis* are considered new.

BENT, A. C. A new subspecies of crossbill from Newfoundland.

Smithsonian Misc. Colls., 60, No. 15, Dec. 12, 1912, pp. 1-3.

Loxia curvirostra perna is described as new.

BROWN, EDWARD J. Rare Virginia birds.

Auk, 29, No. 3, July, 1912, p. 399.

Record of four species, including *Puffinus griseus*, from the coast of Virginia.

CHAPMAN, FRANK M. Diagnoses of apparently new Colombian birds.

Bull. Amer. Mus. Nat. Hist., 31, Art. 16, July 23, 1912, pp. 139-166, pl. xii (map).

The following species and subspecies are described: *Crypturus*

CHAPMAN, FRANK M.—Continued.

souri caucæ, *Chamaepetes sanctæ-marthæ*, *Leptotila verreauxi occidentalis*, *Pionopsitta fuersti*, *Capito maculicoronatus rubrilateralis*, *Venilornis nigriceps equifasciatus*, *Rhamphocœnus rufiventris griseodoratus*, *Drymophila caudata straticipes*, *Formicarius rufipectus carrikeri*, *Grallaria milleri*, *G. alleni*, *Upucerthia excelis columbiana*, *Synallaxis gularis rufipectus*, *S. g. cinereiventris*, *Picolaptes lacrymiger sanctæ-marthæ*, *Xenopops subalaris columbianus*, *Xnipolegus columbianus*, *Muscisarcicola alpina columbiana*, *Mylodynastes chrysoccephalus intermedius*, *Tyrannicus chrysops minimus*, *T. nigricapillus flavimentum*, *Platyparus homochrous canescens*, *Atila fuscicauda*, *Rupicola peruviana eures*, *Phæoprogne tapera immaculata*, *Troglodytes solstitialis pallidipectus*, *Thryophilus nigricapillus connectens*, *Cinnicerthia olivacea infasciata*, *Planesticus fusco-brunneus*, *Vireosylva chloï caucæ*, *Basilæus richardsoni*, *Spinus nigricauda*, *Ammodramus savannarum caucæ*, *Myciospiza martinæ columbiana*, *Atlapetes flaviceps*, *Cyanocompe cyanea caucæ*, *Diglossa cryptorhina*, *D. gloriosissima*, *Sporothraupis cyanocephala margaritæ*, and *Chloroerythraea albitruncata nigriceps*.

CLARK, HUBERT LYMAN. Anatomical notes on some genera of passerine birds.

Auk, 30, No. 2, April, 1913, pp. 262-267.

Notes on certain anatomical features of the genera *Salicitor*, *Chlorophonia* and *Euphonia*.

COOKE, WELLS W. Distribution and migration of North American herons and their allies.

U. S. Dept. Agric., Biological Survey, Bull. No. 45, May 24, 1913, pp. 1-70, figs. 1-21.

This bulletin gives a statement of the distribution and migration of the North American herons, ibises, spoonbills, and storks, and is illustrated by maps showing the manner of occurrence of each species in various parts of its range.

CORY, CHARLES B. Descriptions of twenty-eight new species and subspecies of neotropical birds.

Field Mus. Nat. Hist., Pub. 167, Ornith. Ser., I, No. 7, May 21, 1913, pp. 283-292.

The following birds, chiefly from Peru and Venezuela, are diagnosed

CORY, CHARLES B.—Continued.

as new: *Nothocercus julius venezuelensis*, *Eupsychortyx cristatus continens*, *Urochroma costaricensis*, *Playa cayana venezuelensis*, *Momotus osgoodi*, *Scytalopus magellanicus grandis*, *Threptes frazeri venezuelensis*, *Anthraco-thorax preostii viridicordatus*, *Glaucia litorea fusca*, *Thaumastura cora montana*, *Laticauda rubriginea*, *Galdula ruficauda brevirostris*, *Chelidoptera tenebrosa pallida*, *Picusmus venezuelensis*, *Phæthornis anthrophilus fuscicapillus*, *Camptostoma pusillum tenuirostris*, *Empidonax zuliensis*, *Inezia caudata intermedia*, *Atila rufipectus confinis*, *Thamnophilus dolius deardorni*, *Dendrocicla tyrannina hellmayri*, *Furnarius agnatus venezuelensis*, *Margarornis perlata peruviana*, *Microrhopias grisea fumosa*, *Cereba luteola obscura*, *Diglossa sitoides intermedia*, *Synallaxis candevenezuelensis*, and *Atlapetes castanefrons tamæ*.

EVERMANN, BARTON WARREN. Eighteen species of birds new to the Pribilof Islands, including four new to North America.

Auk, 30, No. 1, Jan., 1913, pp. 15-18.

Maria fulgula, *M. serina*, *Cryptoglaux funerea funerea*, and *Coccothraustes japonicus* are recorded for the first time from North America, and fourteen other species are enumerated as new to the Pribilof Islands.

GRINNELL, JOSEPH. *Leucosticte tephrocotis dawsoni*—a new race of rosy finch from the Sierra Nevada.

Condor, 15, No. 2, Mar. 25, 1913, pp. 76-79.

MEARNS, EDGAR A. Description of a new African grass-warbler of the genus *Cisticola*.

Smithsonian Misc. Colls., 60, No. 20, Feb. 14, 1913, pp. 1, 2.

Cisticola prinioides wambuguensis is described as new.

MILLER, W. DEW. A revision of the classification of the kingfishers.

Bull. Amer. Mus. Nat. Hist., 31, Art. 22, Sept. 12, 1912, pp. 289-311, pls. 25, 26.

Three subfamilies are recognized, Cerylinæ (with 3 genera), Alcedinæ (with 7 genera) and Daceloninæ (with 12 or more genera), with the genus *Ramphalcyon* possibly constituting a fourth group. Diagnoses of the sub-

MILLER, W. DeW.—Continued.

families are given, with much anatomical and other data. The genera and species of the subfamily Cerylinæ are discussed in detail.

NELSON, E. W. Descriptions of new genera, species and subspecies of birds from Panama, Colombia and Ecuador.

Smithsonian Misc. Colls.,
60, No. 3, Sept. 27, 1912,
pp. 1-25.

The following birds, based chiefly upon collections made during the Smithsonian Biological Survey of the Panama Canal Zone, are described as new: *Geotryon goldmani*, *Chloronotus chrysoclorus auroreus*, *Aulacorhynchus ceruleigularis cognatus*, *Momotus coereus reconditus*, *Electron platyrhynchus suboles*, *Gaucha bella*, *Eriocnemis floccus*, *Phaethornis adolphi-fraterculus*, *Thamnistes anabatinus coronatus*, *Dysithamnus mentalis suffusus*, *Herpeltocneme rufimarginatus exiguus*, *Grallaria flavirostris brevis*, *Margarornis bellulus*, *Mitrephes eminulus*, *Prædo eudax*, *Caryothraustes canadensis simulans*, *Tanagra xanthogastra quitensis*, *Tangara fucores*, *Hylopingus inornatus*, *Chrysomitris chrysomelas ocularis*, *Hemitraupis ornatus*, *Vireolanius eximius mutabilis*, *Basilicerus melanogenys ignotus*, *B. m. eximius*, *Troglodytes festinus*, *Myadestes coloratus*, and *Catharus fuscater mirabilis*. *Gaucha*, *Prædo* and *Hylopingus* are new genera from the Mount Pirri region.

Two new subspecies of birds from the slopes of Mount Pirri, eastern Panama.

Smithsonian Misc. Colls.,
60, No. 21, Feb. 26, 1913,
pp. 1, 2.

Capito maculicoronatus pirriensis and *Pseudotriccus pelzelni berlepschi* are described as new.

A new subspecies of Nun bird from Panama.

Proc. Biol. Soc. Washington,
26, Mar. 22, 1913, p. 67.

Monasa palliacea minor is based on specimens collected by the Smithsonian Biological Survey of the Panama Canal Zone.

OBERHOLSER, HARRY C. A revision of the subspecies of the green heron (*Butorides virescens* [Linnaeus]).

Proc. U. S. Nat. Mus., 42,
No. 1916, Aug. 29, 1912,
pp. 529-577.

Based on a study of 568 specimens. Of the eighteen forms recognized, the

OBERHOLSER, HARRY C.—Continued.

following are here described for the first time: *Butorides virescens eremomus*, *B. v. meacatus*, *B. v. hypernotus*, *B. v. margaritophilus*, *B. v. cubanus*, *B. v. christophorensis*, *B. v. dominicanus*, *B. v. lucianus*, *B. v. barbadensis*, *B. v. grenadensis*, *B. v. tobagenensis*, and *B. v. curacensis*.

Descriptions of one hundred and four new species and subspecies of birds from the Barusan Islands and Sumatra.

Smithsonian Misc. Colls.,
60, No. 7, Oct. 26, 1912,
pp. 1-22.

The following species and subspecies, based on collections made by Dr. W. L. Abbott, are described as new: *Butorides javanicus actophilus*, *B. j. icastopterus*, *Amaurornis phaeocephala cleptes*, *Macropygia emilliana classa*, *M. e. hypoperena*, *Muscadivores zeneus mietus*, *Dendrophassa soranus mesochlorus*, *D. v. polioptila*, *D. v. mixta*, *D. fulvicollis melopogonensis*, *Trogon eurotrostra hypothaepina*, *T. c. emicra*, *T. c. poga*, *T. c. haliplos*, *Coscorus fasciatus perioncus*, *C. f. calus*, *Pallidus cyanurus pontius*, *Loriculus galgulus lamprochlorus*, *L. g. dolichopterus*, *Burdiculus lugubris barusanus*, *Cacomantis merulinus subpallidus*, *Meiglyptes tukki calcoticus*, *M. grammithorax microterus*, *Micropternus phaeocephalus celanephis*, *Chloraea mystacophanes ampala*, *Mesobucco dussumieri gigantorhinus*, *Cranorhinus corvatus megistus*, *Alcedo meninting callima*, *Alcedo meninting subviridis*, *Ceyx enopopygius*, *Ceyx primulgus mirificus*, *Hemiprocne longipennis occipiter*, *H. l. thos*, *Eurylaimus ochromelas meciatus*, *Pitta moluccensis lepta*, *Anuropeia malaccensis nestle*, *A. m. exangulis*, *Alcippe cinerea hypocnema*, *Stachyris maculata hypopyrrha*, *Cyanoderma erythropteron peltum*, *Mizornis pileata zaptera*, *M. p. zarkabdotia*, *Agelaius tiphia hortizoptera*, *A. viridisima nestiota*, *Microtarus melanoccephalus chrysophorus*, *M. m. hyperemus*, *Pycnonotus erythrophthalmos cyanochrus*, *P. e. leus*, *P. e. parvicrus*, *P. olivaceus chloecis*, *P. plumbeus porphyreus*, *Muscitra grisola nestiota*, *Gerygone modiglianii muscipes*, *Ethnomystes umbratilis eclipsa*, *Calicicops ceylonensis percnocara*, *C. c. amphibia*, *C. c. pellenota*, *Coppychus saularis zacnecus*, *Kittacola melanura hypolea*, *K. m. opisthochra*, *K. melabaria opisthopala*, *K. m. opisthis*, *Orthotomus cinereus beus*, *O. c. ochromatus*, *Burnesia dysancrita*, *B. d. halitona*, *Artemides sumatrensis hal-*

OBERHOLSER, HARRY C.—Continued.

stephis, *Pericrocotus igneus trophis*, *P. endemaneensis mynthomelas*, *Lalage nigra empheris*, *Dicrurus leucogenis diporus*, *D. cineraceus celanus*, *Diosomus paradiseus olivaceus*, *D. p. edelphus*, *D. p. packistus*, *D. p. eliasopterus*, *Oriolus maculatus richmondi*, *Gracula javanensis miodera*, *G. j. ophelochlora*, *Lamprocorax chalybeus pachistorkinus*, *L. c. rhadinorhamphus*, *Chalcostetha calcostetha pagicola*, *Ethopyga siparaja tinoptila*, *A. s. meaneura*, *A. s. phatina*, *Cinnyris ornata polyclysta*, *C. brasillana cenopa*, *C. b. mecyrorhyncha*, *C. b. hypolempis*, *Arachnothera longirostris melanchima*, *A. l. exochra*, *A. l. hypochra*, *A. l. zarkina*, *A. chrysogenys copha*, *A. c. isopega*, *A. c. pleozantha*, *Anthreptes malacensis neazus*, *A. m. pelloptilus*, *A. m. pollostus*, *Chalcopteria singalensis panopsis*, *Dicaeum trigonostigma antioprectum*, *D. t. lyprum*, *D. t. melantha*, and *Anaimos maculatus opistatus*.

A revision of the forms of the great blue heron (*Ardea herodias* Linnaeus).

Proc. U. S. Nat. Mus., 43, No. 1909, Dec. 12, 1912, pp. 531-559.

Based on a study of 221 specimens. Ten subspecies are recognized, of which the following are here first described: *Ardea herodias adoxa*, *A. h. hyperonea*, and *A. h. oligista*.

PALMER, T. S. The harlequin duck in Wyoming.

Auk, 30, No. 1, Jan., 1913, pp. 106, 107.

Cites several records of this species in Wyoming and other parts of the Rocky Mountains.

PHILLIPS, JOHN C. A reconsideration of the American black ducks with special reference to certain variations.

Auk, 29, No. 3, July, 1912, pp. 295-306, pl. 15.

A discussion of individual and sexual variation in *Anas tristic* and allies. The author believes *Anas fulvigula maculosa* to be a synonym of *A. fulvigula*, and *A. aerti* is shown to be equivalent to *A. wyvilliana*.

RAMSDEN, CHAS. T. Maynard's cuckoo (*Coccyzus minor maynardi* Ridgway) in Cuba.

Auk, 29, No. 3, July, 1912, pp. 303, 304.

Notes on the occurrence of this form in Cuba.

RILEY, J. H. A new name for *Tanagra sclateri* Berlepech.

Proc. Biol. Soc. Washington, 25, Dec. 24, 1912, p. 185.

Thraupis episcopus nescophilus is proposed, owing to the prior establishment of *Tanagra sclateri* Sundevall.

Birds collected or observed on the expedition of the Alpine Club of Canada to Jasper Park, Yellowhead Pass, and Mount Robson region.

Canadian Alpine Journal, Special Number, 1912 (Feb., 1913), pp. 47-75, pls. 1, 2.

An account of the 78 species and subspecies of birds collected or noted during the expedition of 1911.

A new hummingbird of the genus *Chlorostilbon* from Brazil.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 63, 64.

Chlorostilbon purpureus is described as new.

The king rail of Cuba.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 83-85.

The Cuban king rail is differentiated as *Rallus elegans ramsdeni*.

The Bahama barn owl.

Proc. Biol. Soc. Washington, 26, June 30, 1913, pp. 153, 154.

Tyto perlatius lucayanus is described as new.

SHELLEY, G. E. The Birds of Africa, comprising all the species which occur in the Ethiopian region. By G. E. Shelley, F. Z. S., F. R. G. S., &c., (late Grenadier Guards), author of "A handbook to the birds of Egypt," "A monograph of the sun-birds," etc. Vol. V. Pt. II, completed and edited by W. L. Sclater, M. A., F. Z. S. London: Henry Sotherton & Co., 43 Piccadilly, W., and 140 Strand, W. C., 1912.

Royal 8vo., pp. i-viii, 165-502, pls. L-LVII.

Embraces the section "Lani," with five families, and over 200 species and subspecies. *Vanga grisepectus* is described as a new species.

SHUFELDT, R. W. American ducks and how to distinguish them.

Oster's Book, 24, 1912; No. 1, July, pt. 5, pp. 26-31, figs. 16-21; No. 2, Aug., pt. 6, pp. 133-139, figs. 22-26; No. 3, Sept., pt. 7, pp. 238-245, figs. 27-32; No. 4, Oct., pt. 8, pp. 356-362, figs. 33-38; No. 5, Nov., pt. 9, pp. 470-474, figs. 39-43; No. 6, Dec., pt. 10, pp. 581-585, figs. 44-47.

—— Study of the eggs of the Meleagridæ.

Condor, 14, No. 6, Nov. 30, 1912, pp. 209-213, fig. 82.

Description of the eggs of *Meleagris gallopavo silvestris*, with notes on other forms of the genus.

—— On the comparative osteology of *Cereopsis novæ-hollandiæ*.

Emu, 12, pt. 4, Apr. 1, 1913, pp. 209-237, pls. 28-34.

A description of the skeleton of the *Cereopsis* goose, with comparison of numerous other Anserine types.

STONE, WITMER. A new *Synallaxis*.

Proc. Acad. Nat. Sci. Phila., Sept. 6, 1912, p. 365.

The Ecuadorian form of *Synallaxis gularis* is separated as *S. g. pichinchæ*.

SWALES, B. H. Northern phalarope (*Lobipes lobatus*) in Michigan.

Auk, 30, No. 1, Jan., 1913, pp. 111, 112.

Cites records of this species in Michigan.

THAYER, JOHN E., and OUTRAM BANGS. Some Chinese vertebrates. Aves.

Memoirs Mus. Comp. Zool., 40, No. 4, Aug., 1912, pp. 127-200, pls. 3-6.

A report on the birds of the Thayer expedition to China. Over 350 species and subspecies are enumerated, of which the following are described as new: *Ithaginis wilsoni*, *Collocalia inopina pellos*, *Heterozeniscus cruralis formater*, *Teslia grallator*, *Euthora unicolor canaster*, *S. zappeyi*, *Phoenopygia mutica*, *Oreocincla dauma socia*, *Reguloides maculipennis debilis*, *Prinia inornata ezler*, *Sylviparus modestus oculatus*, and *Boanerges intermedius*. *Boanerges* is a new genus of Corvidæ, related to *Perisoreus*.

TODD, W. E. CLYDE. A revision of the genus *Chamepeelia*.

Annals Carnegie Mus., 8, Nos. 3-4, May 8, 1913, pp. 507-603.

A carefully prepared paper, based on a study of nearly 2,000 specimens, representing all the known forms. The generic synonymy and that relating to the various forms is unusually complete and accurate. The following subspecies are considered new: *Chamepeelia passerina parvula*, *C. p. nana*, *C. p. guttensis*, *C. minuta elwodes* and *C. rufipennis neophilæ*. *Eupeelia* is a new genus.

REPTILES AND BATRACHIANS.

BRIMLEY, C. S. Notes on the salamanders of the North Carolina mountains with descriptions of two new forms.

Proc. Biol. Soc. Washington, 25, Dec. 4, 1912, pp. 135-140, pls. 6, 7.

Plethodon metcalfi and *Spelerpes ruber schencki* are described as new species. The type, together with a number of specimens of other species, have been deposited in the National Museum.

HOLLISTER, N. List of reptiles and batrachians of the Alpine Club expedition to the Mount Robson Region.

Canadian Alpine Journal, Special Number, 1912 (Feb. 17, 1913), pp. 45, 46.

STEJNEGER, LEONHARD. A new lizard from Porto Rico.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 69-72.

Ameiva weismorei is described as a new species; the type is in the National Museum.

—— Results of the Yale Peruvian Expedition of 1911.—Batrachians and reptiles.

Proc. U. S. Nat. Mus., 45, No. 1992, June 4, 1913, pp. 541-547.

Bufo itaca, *Eleutherodactylus bimhami*, *E. felei*, *Stenocercus ervingi*, and *Oreosaurus lacertus* are described as new species.

FISHES.

BEAN, BARTON A., and ALFRED C. WEED. Notes on a collection of fishes from Java, made by Owen Bryant and William Palmer in 1909, with description of a new species.

Proc. U. S. Nat. Mus., 42, No. 1919, Aug. 30, 1912, pp. 587-611, pls. 73-75, figs. 1-3.

Annotated list of 979 specimens representing 106 genera and 182 species, one of which, *Agonostomus bryanti*, is described as new.

BEAN, TARLETON H. Description of new fishes of Bermuda.

Proc. Biol. Soc. Washington, 25, July 31, 1912, pp. 121-126.

The following species are described as new: *Sardinella pinnula*, *Stolephorus stridis*, *Eucrotus ventralis*, *Paraphrynops atrimanus*, *Aethias louisii*, *Pseudoscarus plumbeus*, *Pontinus microlepis*, and *Emblemaria markii*.

BURKE, CHARLES VICTOR. A new genus and six new species of fishes of the family Cyclogasteridae.

Proc. U. S. Nat. Mus., 43, No. 1941, Dec. 12, 1912, pp. 567-574.

The results of an examination by the author of the Cyclogasteridae in the collection of the National Museum, and that of the Museum of Comparative Zoology, Cambridge, Mass., are here recorded. The new genus *Polypera* based on *Polypera greeni*, and the following species are described as new: *Cyclogaster bristolense*, *Cyclogaster megacephalus*, *Careproctus gilberti*, *Paraliparis deani*, *P. garmani*, and *Rhinoliparis attenuatus*.

—— (See also under Charles H. Gilbert.)

GILBERT, CHARLES H. Descriptions of two new fishes of the genus *Triglops* from the Atlantic coast of North America.

Proc. U. S. Nat. Mus., 44, No. 1963, Apr. 30, 1913, pp. 465-468, pl. 64.

The author describes two new subspecies of the genus *Triglops* found in the North Atlantic, naming the form from the coast of New England *Triglops ommatistius*, and that from off Newfoundland *Triglops ommatistius terranova*. They had been recorded as belonging to the old species *Triglops pingelii*.

GILBERT, CHARLES H., and C. V. BURKE. New cyclogasterid fishes from Japan.

Proc. U. S. Nat. Mus., 42, No. 1907, July 3, 1912, pp. 351-380, pls. 41-48, figs. 1-18.

Records from Japanese waters 31 species of Cyclogasterids, 23 of which are here described as new.

GUDGER, E. W. Natural history notes on some Beaufort, N. C., fishes.—1912.

Proc. Biol. Soc. Washington, 26, May 3, 1913, pp. 97-109.

Notes based on observations of sharks, rays and other fishes.

JORDAN, DAVID STARR. Note on the generic name *Safale*, replacing *Boulengerina*, for a genus of Kuhliid fishes.

Proc. U. S. Nat. Mus., 42, No. 1922, August 29, 1912, p. 655.

—— Description of *Anguilla manabei*, a new eel from Japan.

Proc. U. S. Nat. Mus., 44, No. 1957, Apr. 3, 1913, pp. 359, 360, pl. 57.

—— and CHARLES WILLIAM METZ. Descriptions of two new species of fishes from Honolulu, Hawaii.

Proc. U. S. Nat. Mus., 42, No. 1915, August 30, 1912, pp. 525-527, pl. 71.

Holacanthus potteri and *Chromis versatilis* are described as new species.

—— and JOHN OTTERBEIN SNYDER. Description of the Yachats "Smelt," a new species of Atherinoid fish from Oregon.

Proc. U. S. Nat. Mus., 45, No. 1909, June 21, 1913, pp. 575, 576, pl. 46.

Describes *Atherinops oregonia*.

KENDALL, WILLIAM C. Notes on a new species of flatfish from off the coast of New England.

Bull. Bur. Fish., 30, No. 764, Aug. 13, 1912, pp. 389-394, pl. LVII.

Pseudopleuronectes dignabilis is described as new.

METZ, CHARLES WILLIAM. (See under David Starr Jordan.)

RADCLIFFE, LEWIS. Descriptions of a new family, two new genera, and twenty-nine new species of Anacanthine fishes

RADCLIFFE, LEWIS—Continued.

from the Philippine Islands and contiguous waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 21.]

Proc. U. S. Nat. Mus., 43, No. 1924, Sept. 27, 1912, pp. 105-140, pls. 22-31, figs. 1-11.

The new family is *Macrouroididae*, Smith and Radcliffe; and the new genera are *Macrouroides*, Smith and Radcliffe, and *Parateleopus*, Smith and Radcliffe.

— Descriptions of seven new genera and thirty-one new species of fishes of the families *Brotulidae* and *Carapidae* from the Philippine Islands and the Dutch East Indies. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 24.]

Proc. U. S. Nat. Mus., 44, No. 1948, Apr. 3, 1913, pp. 135-176, pls. 7-17.

— (See also under Hugh M. Smith.)

— and WILLIAM W. WELSH. Description of a new darter from Maryland.

Bull. Bur. Fish., 32, No. 773, May 24, 1913, pp. 31, 32, pl. XVIII.

Hadropterus sellaris is described from specimens seized in Swan Creek, near Havre de Grace, Md.

SMITH, HUGH M. The Hemiscylliid sharks of the Philippine Archipelago, with description of a new genus from the China Sea. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 28.]

Proc. U. S. Nat. Mus., 45, No. 1997, June 21, 1913, pp. 567-569, pl. 45, figs. 1, 2.

Cirrhoscyllium is described as a new genus, with *Cirrhoscyllium expolitum* Smith and Radcliffe, as the type species.

— Description of a new carcharioid shark from the Sulu Archipelago. [Scientific results of the Philippine cruise

SMITH, HUGH M.—Continued.

of the Fisheries steamer "Albatross," 1907-1910.—No. 29.]

Proc. U. S. Nat. Mus., 45, No. 2003, June 21, 1913, pp. 599-601, pl. 47, figs. 1-3.

Describes *Eridacnis radcliffei*.

— and LEWIS RADCLIFFE. Description of a new family of pediculate fishes from Celebes. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 20.]

Proc. U. S. Nat. Mus., 42, No. 1917, Aug. 30, 1912, pp. 579-581, pl. 72.

Describes a remarkable new form, made the basis of a new family, *Thaumatchthyidae*, of which the type genus is *Thaumatchthys* Smith and Radcliffe, and the type of the genus *Thaumatchthys pagidostomus*.

SNYDER, JOHN OTTERBEIN. Japanese shore fishes collected by the United States Bureau of Fisheries steamer "Albatross" Expedition of 1906.

Proc. U. S. Nat. Mus., 42, No. 1908, Aug. 30, 1912, pp. 399-450, pls. 51-61, figs. 1, 2.

— The fishes of Okinawa, one of the Riu Kiu Islands.

Proc. U. S. Nat. Mus., 42, No. 1913, Aug. 30, 1912, pp. 487-519, pls. 62-70.

A list of 293 species with an account of the fishes of Okinawa, based on a collection made by the Bureau of Fisheries steamer "Albatross" during the 1906 cruise in the North Pacific Ocean, along the shores of Japan.

— A new species of trout from Lake Tahoe.

Bull. Bur. Fish., 32, No. 768, Dec. 31, 1912, pp. 25-28.

Salmo regalis is described as new.

— Notes on *Ranzania makua* Jenkins and other species of fishes of rare occurrence on the California coast.

Proc. U. S. Nat. Mus., 44, No. 1961, Apr. 12, 1913, pp. 455-460, pl. 63.

— (See also under David Starr Jordan.)

WEED, ALFRED C. (See under Barton A. Bean.)

WELSH, WILLIAM W. (See under Lewis Radcliffe.)

ASCIDIANS.

RITTER, WILLIAM E. The simple ascidians from the northeastern Pacific in the collection of the United States National Museum.

Proc. U. S. Nat. Mus., 45, No. 1969, June 26, 1913, pp. 427-506, pls. 33-36.

Treats of 41 species and subspecies belonging to 6 families and 18 genera; one genus (*Hartmeyeria*), 12 species and one subspecies are described as new. Gives tables showing horizontal and vertical distribution, discusses Hartmeyer's nomenclature, and closes with a bibliography.

VAN NAME, WILLARD G. Simple ascidians of the coast of New England and neighboring British provinces.

Proc. Boston Soc. Nat. Hist., 34, No. 13, Aug., 1912, pp. 439-619, pls. 43-73, figs. 1-43.

Based largely on collections made by the U. S. Fish Commission from 1871 to 1887, inclusive. The descriptions of species are preceded by a review of the literature and a chapter on distribution and followed by a bibliography. Forty species are described of which 8 are new.

MOLLUSKS.

BARTSCH, PAUL. The bearing of ocean currents on the problem of the unity or plurality and the probable place of origin of the American aborigines.

Amer. Anthropologist, 14, No. 1, Jan.-Mar., 1912, pp. 49, 50.

— Planting Bahama cerions upon the Florida Keys.

Carnegie Institution of Washington, Year Book No. 11, 1912, pp. 129-131.

An account of a collecting trip to the Bahamas and the planting of Bahama cerions on the Florida Keys with the hope that these experiments may throw light on the factors involved in the great differentiation into races which has taken place in this group.

— The giant species of the molluscan genus *Lima* obtained in Philippine and adjacent waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 26.]

Proc. U. S. Nat. Mus., 45, No. 1978, June 13, 1913, pp. 235-240, pls. 12-20.

The known giant *Limas* are discussed, and a new subgenus *Callolima* and the following new species obtained during the cruise are described: *Lima* (*Acosta*) *verdensis*, *L. (A.) celebensis*, *L. (A.) butonensis*, *Lima* (*Callolima*) *smithi*, *L. (C.) rathbuni*, *L. (C.) philippinensis*, *L. (C.) borneensis*.

— The Philippine mollusks of the genus *Dimya*. [Scientific results of the Philippine cruise of the Fisheries

BARTSCH, PAUL—Continued.
steamer "Albatross," 1907-1910.—No. 27.]

Proc. U. S. Nat. Mus., 45, No. 1983, June 13, 1913, pp. 305-307, pls. 27, 28.

The known recent *Dimyas* are discussed and the following species obtained during the cruise are described as new: *Dimya filipina* and *D. lima*.

— New land shells from the Philippine Islands.

Proc. U. S. Nat. Mus., 45, No. 1993, June 21, 1913, pp. 549-553, pl. 43.

Obba worcesteri and *Cochlostyla clantanensis* from Olanivan Island and *Cochlostyla calusaensis* from Calusa Island are described as new. They were collected by the Hon. Dean C. Worcester, Secretary of the Interior of the Philippine Islands.

BERRY, S. STILLMAN. Some new Hawaiian cephalopods.

Proc. U. S. Nat. Mus., 45, No. 1996, June 4, 1913, pp. 563-566.

Establishes a new genus *Leptoteuthis*, with *L. lugubris* as the type, which is described together with the following new species: *Scorurgus patagiatus*, *Euprymna scolopes*, *Teleoteuthis compacta*, *Abralia trigonura*, and *Pterygoteuthis microlampas*.

DALL, WILLIAM HEALEY. New species of land shells from the Panama Canal Zone.

Smithsonian Misc. Colls., 59, No. 18, July 27, 1912, pp. 1-3, pls. 1, 2.

DALL, WILLIAM HEALEY. Mollusk fauna of northwest America.

Journ. Acad. Nat. Sci. Phila., 15, 2nd ser., Centennial volume; Sept. 7, 1912, pp. 243-248.

Discusses the history of the exploration of this fauna, in which the Smithsonian Institution through Dr. Philip Pearsall Carpenter was an important factor; and explains its characteristics.

——— Note on the generic name *Pectunculus*.

Proc. Malacol. Soc. London, 10, pt. 3, Oct., 1912, pp. 255, 256.

Shows that the name was first applied in binomial nomenclature to *Cardium edule* Linnaeus, and can not therefore be used for the other groups to which it has subsequently been applied.

——— Feeding habits of *Ariolimax*.

Nautilus, 26, No. 9, Jan., 1913, p. 108.

Describes the feeding habits as observed by Dr. C. Hart Merriam in California.

——— Note on *Cyprina islandica*.

Proc. Malacol. Soc. London, 10, pt. 4, Mar., 1913, p. 286.

Discusses the nomenclature of this species.

——— Charles W. Gripp.

Nautilus, 26, No. 11, Mar., 1913, p. 132.

Obituary notice of a valuable contributor to the National Museum collection.

DALL, WILLIAM HEALEY. Shells collected at Manzanillo, West Mexico, October, 1910.

Nautilus, 26, No. 12, Apr., 1913, p. 143.

A catalogue of species collected at Manzanillo by C. R. Oruit and sent by him to the National Museum.

——— Diagnoses of new shells from the Pacific Ocean.

Proc. U. S. Nat. Mus., 45, No. 2002, June 11, 1913, pp. 587-597.

Diagnoses of new genera and species represented in the collection of the National Museum, namely: New genus, *Helicardis* based on *Verticordia perpicata* Dall, Galapagos Islands; *Cosmioconcha*, subgenus of *Amphissa*, type *Buccinum modestum* Powys, Gulf of California; and the following new species: *Tritonofusus jordanii*, Puget Sound; *Boreotrophon gorgon*, Hondo, Japan; *Amphissa* (*Cosmioconcha*) *palmeri*, A. (C.) *pergracilis*, A. (C.) *pervula*, *Liotalurida*, all from the Gulf of California; *Bolma bertschii*, Moluccas; *Margarites stimulus*, California; *Calliostoma nepheloides*, Panama; *Pecten* (*Pseudamustum*) *arces*, California; *Cuspidaria subglacialis*, California; *Psopidia cymata*, Lower California; *Lyonsia* (*Allogramma*) *amabilis*, California; *L. (A.) oahuensis*, Hawaiian Islands; *Lyonsia pugtensis*, Puget Sound; *Lyonsiella magnifica*, Mazatlan; *Poromya* (*Dermatomya*) *tenuiconcha*, Monterey Bay, California; *Erycina colpoica*, Gulf of California; *Rochefortia compressa*, *Aligens nucua*, and *Verticomya* (*Archivesica*) *suavis*, from the Gulf of California.

PROTOTRACHEATA.

CLARK, AUSTIN HOBART. A revision of the American species of *Peripatus*.

Proc. Biol. Soc. Washington, 26, Jan. 18, 1913, pp. 15-19.

CLARK, AUSTIN HOBART. Notes on American species of *Peripatus*, with a list of known forms.

Smithsonian Misc. Colls., 60, No. 17, Jan. 25, 1913, pp. 1-5.

INSECTS.

ALEXANDER, CHARLES P. A revision of the South American dipterous insects of the family Ptychopteridae.

Proc. U. S. Nat. Mus., 44, No. 1963, Feb. 20, 1913, pp. 331-336, figs. 1-3.

Describes 1 new species, of which the type is in the National Museum.

ALEXANDER, CHARLES P. A synopsis of part of the neotropical crane-flies of the subfamily Limnobiinae.

Proc. U. S. Nat. Mus., 44, No. 1966, Apr. 30, 1913, pp. 481-549, pls. 65-68.

Of the new forms described, the types of 20 new species and 1 new

- ALEXANDER, CHARLES P.—Continued.
subspecies, and paratypes of 1 new species and 1 new subspecies are in the National Museum.
- BARBER, H. S. Note on the Avocado weevil (*Heilipus lauri* Boh.).
Proc. Ent. Soc. Washington, 14, No. 3, Sept. 30, 1912, pp. 181-183, pl. IX.
The specimens studied are in the collections of the National Museum.
- Eggs of *Cicada lyrice* De Geer.
Proc. Ent. Soc. Washington, 14, No. 4, Jan. 10, 1913, pp. 210, 211, 1 fig.
A description of the eggs and account of the injury made in depositing them.
- Observations on the life-history of *Micromalthus debilis* LeConte.
Proc. Ent. Soc. Washington, 15, No. 1, Apr. 9, 1913, pp. 31-38, pls. II, III.
- Luminous Collembola.
Proc. Ent. Soc. Washington, 15, No. 1, Apr. 9, 1913, pp. 46-50.
Notes on the luminosity of species, the material on which they were based being deposited in the National Museum.
- BRUNER, LAWRENCE. Results of the Yale Peruvian Expedition of 1911. Orthoptera (Acridiidae—short-horned locusts).
Proc. U. S. Nat. Mus., 44, No. 1949, Feb. 11, 1913, pp. 177-187.
Describes 2 new genera, 6 new species, and 1 new variety, all of the type specimens of which are in the National Museum.
- Results of the Yale Peruvian Expedition of 1911. Orthoptera (Addenda to the Acridiidae—short-horned locusts).
Proc. U. S. Nat. Mus., 45, No. 2001, June 11, 1913, pp. 585, 586.
Describes 1 new species, the type of which is in the National Museum.
- BUSCK, AUGUST. New California Microlepidoptera.
Journ. Ent. and Zool., 5, No. 2, June, 1913, pp. 95-102.
Describes 8 new species, the types of which are in the National Museum.
- BUSCK, AUGUST. Notes on the genus *Mieza* Walker, with descriptions of three new species from Costa Rica.
Insector Insectiv. Menstruus, 1, No. 6, June 30, 1913, pp. 70-73.
Describes 3 new species, of which the types are in the National Museum.
- CAUDELL, A. N. Notes on the mantid genus *Gonastista* Sauss.
Psyche, 19, No. 5, Oct., 1912, pp. 160-162.
Describes 1 new species, the type of which is in the National Museum.
- A new genus and species of Gryllidae from Texas.
Proc. Ent. Soc. Washington, 14, No. 4, Jan. 10, 1913, pp. 187, 188.
- Description of two new species of Orthoptera from Peru.
Can. Ent., 45, No. 1, Jan. 22, 1913, pp. 19-21.
- Results of the Yale Peruvian Expedition of 1911. Orthoptera (exclusive of Acridiidae).
Proc. U. S. Nat. Mus., 44, No. 1956, Feb. 20, 1913, pp. 347-357.
Describes 9 new species, of which the type specimens are in the National Museum.
- Notes on nearctic orthopterous insects. I. Nonsaltatorial forms.
Proc. U. S. Nat. Mus., 44, No. 1970, Apr. 18, 1913, pp. 595-614, figs. 1-27.
Describes 1 new species, the type of which is in the National Museum, and records tables for species of various genera.
- A new Pseudo-phylliid from Jamaica.
Insector Insectiv. Menstruus, 1, No. 5, May, 1913, pp. 57, 58.
- and MORGAN HEBARD. Fixation of the single type (lectotypic) specimens of species of American Orthoptera.
Proc. Acad. Nat. Sci. Phila., May, 1912, pp. 157-158.

CLARK, AUSTIN HOBART. Three interesting butterflies from eastern Massachusetts.

Proc. U. S. Nat. Mus., 45, No. 1987, June 13, 1913, pp. 363, 364, pl. 32.

Notes on specimens in the collection of the National Museum.

COCKERELL, T. D. A. Names applied to the eucerine bees of North America.

Proc. U. S. Nat. Mus., 43, No. 1932, Oct. 19, 1912, pp. 261-273.

List of the species and types in the collections of the National Museum.

CRAWFORD, J. C. Descriptions of new Hymenoptera, No. 5.

Proc. U. S. Nat. Mus., 43, No. 1927, Sept. 7, 1912, pp. 163-188, figs. 1, 2.

Records 2 new genera, 3 new species, and 1 new name for a preoccupied specific name. The types are in the National Museum.

Notes on some Canadian bees.

Can. Ent., 44, No. 12, Dec. 31, 1912, pp. 359, 360.

Describes 2 new species, the types of which are in the National Museum.

On the status of some species of the genus *Panurginus*.

Can. Ent., 44, No. 12, Dec. 31, 1912, pp. 367, 368.

A comparative description of the types of three species in the National Museum.

Notes on some species of the genus *Proserpis*.

Can. Ent., 45, No. 5, May 17, 1913, pp. 154-156, figs 3-8.

Description of 1 new species, of which the type is in the National Museum, and notes on the synonymy of 2 other species.

Descriptions of new Hymenoptera, No. 6.

Proc. U. S. Nat. Mus., 45, No. 1979, May 22, 1913, pp. 241-260.

Seven new genera and 26 new species are described, the types being in the National Museum.

Descriptions of new Hymenoptera, No. 7.

Proc. U. S. Nat. Mus., 45, No. 1984, May 22, 1913, pp. 309-317, 1 fig.

Describes 1 new genus and 14 new species, the types of which are in the National Museum.

DYAR, HARRISON G. Three new *Noc-tuidæ*.

Proc. Ent. Soc. Washington, 14, No. 3, Sept. 30, 1912, pp. 167, 168.

Descriptions of 2 new genera and 3 new species, the types of which are in the National Museum.

More about the sloth moth.

Proc. Ent. Soc. Washington, 14, No. 3, Sept. 30, 1912, pp. 169-174.

Recognition of *Palindia merricki* Holland.

Proc. Ent. Soc. Washington, 14, No. 4, Jan. 10, 1913, p. 194.

A new *Ulophora* from Florida.

Proc. Ent. Soc. Washington, 14, No. 4, Jan. 10, 1913, p. 218.

Description of 1 new species, the type of which is in the National Museum.

Notes on cotton moths.

Insector Insectis Menstruus, 1, No. 1, Jan. 27, 1913, pp. 1-12.

Describes 8 new species, the types of which are in the National Museum.

Descriptions of new Lepidoptera, chiefly from Mexico.

Proc. U. S. Nat. Mus., 44, No. 1951, Feb. 11, 1913, pp. 279-324.

Describes 6 new genera, 117 new species, and 1 new subspecies, the types of which are in the National Museum.

Descriptions of new species of saturnian moths in the collection of the United States National Museum.

Proc. U. S. Nat. Mus., 44, No. 1947, Feb. 20, 1913, pp. 121-134.

Contains tables for the species of the genus *Hylesia* and describes 30 new species, the types of which are in the National Museum.

The species of *Sphida Grote*.

Insector Insectis Menstruus, 1, No. 2, Feb. 20, 1913, pp. 18, 19.

Describes 3 new species, the types of which are in the National Museum.

The larvæ of *Xanthopastis timais* Cramer.

Insector Insectis Menstruus, 1, No. 2, Feb. 20, 1913, pp. 20-22.

Contains description of 1 new species, the type of which is in the National Museum.

DYAR, HARRISON G. A note on the
Macrothecinae.

*Insector Insectiv. Men-
struus*, 1, No. 2, Feb. 20,
1913, pp. 22, 23.

Describes 3 new species, the types of
which are in the National Museum.

— The species of *Afrida* Möschler.

*Insector Insectiv. Men-
struus*, 1, No. 3, March 29,
1913, pp. 26-33.

Descriptions of 12 new species, the
types of which are in the National
Museum.

— Five new North American *Pyrali-
dae*.

*Insector Insectiv. Men-
struus*, 1, No. 3, March 29,
1913, pp. 34, 35.

— The American species of *Dysodia*.

*Insector Insectiv. Men-
struus*, 1, No. 4, Apr. 30,
1913, pp. 37-45.

Descriptions of 12 new species, the
types of which are in the National
Museum.

— The larva of *Trichostibas parvula*.

*Insector Insectiv. Men-
struus*, 1, No. 4, Apr. 30,
1913, pp. 48, 49.

— Another larva of *Xanthopastis
timaia*.

*Insector Insectiv. Men-
struus*, 1, No. 4, Apr. 30,
1913, pp. 49, 50.

— The larva of *Delias henningia*
Echscholtz.

*Insector Insectiv. Men-
struus*, 1, No. 5, May 31,
1913, p. 58.

— A *Galleriine* feeding in cacao pods.

*Insector Insectiv. Men-
struus*, 1, No. 5, May 31,
1913, p. 59.

One genus and 1 new species are de-
scribed. The types are in the Na-
tional Museum.

— Note on the systematic position of
Pseudacontia rhizoleuca Brabant.

*Insector Insectiv. Men-
struus*, 1, No. 5, May 31,
1913, pp. 59, 60.

One new genus is described, the
type of which is in the National
Museum.

— A note on *Talara ruficollis* Schaus.

*Insector Insectiv. Men-
struus*, 1, No. 6, June 30,
1913, p. 75.

Two new genera and 1 new species
are described. The types are in the
National Museum.

DYAR, HARRISON G. (See also under
L. O. Howard.)

— and F. KNAB. Three new neo-
tropical mosquitoes.

*Insector Insectiv. Men-
struus*, 1, No. 6, June 30,
1913, pp. 76-78.

FORBES, WM. T. M. *Trichoclea ruisa*
new species: a structurally aberrant
noctuid.

*Insector Insectiv. Men-
struus*, 1, No. 6, June 30,
1913, pp. 74, 75.

The type of the new species de-
scribed is in the National Museum.

GAHAN, A. B. New *Ichneumonoides*
parasitic on leaf-mining *Diptera*.

Can. Ent., 45, No. 5, May
17, 1913, pp. 145-154.

Seven new species are described.
The types are in the National
Museum.

— A new genus and one new species
of *Chalcidoidea*.

Can. Ent., 45, No. 6, June 7,
1913, pp. 178-182.

GIRAULT, A. ARSÈNE. A systematic
monograph of the chalcidoid *Hymenop-
tera* of the subfamily *Signiphorinae*.

Proc. U. S. Nat. Mus., 45,
No. 1977, May 22, 1913,
pp. 189-233.

The types of 11 of the new species
described are in the National
Museum.

HEBARD, MORGAN. (See under A. N.
Caudell.)

HEIDEMANN, OTTO. Description of two
new species of North American *Tin-
gitidae*

Proc. Ent. Soc. Washington,
15, No. 1, April 9, 1913,
pp. 1-4, figs. 1, 2.

— The sugar-cane *Tingid* from Mex-
ico.

Journ. of Economic Ent.,
6, No. 2, April, 1913, pp.
249-251, 1 fig.

HOWARD, L. O., H. G. DYAR and F.
KNAB. The Mosquitoes of North and
Central America and the West Indies.

*Carnegie Inst. of Washing-
ton*, Pub. No. 159, Jan. 21,
1913. Vol. I, pp. 1-520,
pls. I-XIV; Vol. II, pls.
I-CL.

A general consideration of mos-
quitoes, their habits, and their rela-
tions to the human species.

KNAB, FREDERICK. *Drosophila repleta* Wollaston.

Psyche, 19, No. 3, June, 1912, pp. 106-108.

Contains notes on specimens in the collection of the National Museum.

——— **Diptera at home on spiders' webs.**

Journ. N. Y. Ent. Soc., 20, No. 3, Sept., 1912, pp. 143-146.

Contains remarks on species, based partly on material in the National Museum.

——— **Some neotropical Syrphidae.**

Insector Insectis Menstruus, 1, No. 2, Feb. 20, 1913, pp. 13-15.

One new genus and 2 species are described. The types are in the National Museum.

——— **Names and synonymy in Anophelines.**

Insector Insectis Menstruus, 1, No. 2, Feb. 20, 1913, pp. 15-17.

——— **A new bromeliculous Megarhinus.**

Insector Insectis Menstruus, 1, No. 3, March 29, 1913, pp. 35, 36.

Contains description of 1 new species, of which the type is in the National Museum.

——— **Changes in the mosquito fauna of Panama.**

Proc. Ent. Soc. Washington, 15, No. 1, Apr. 9, 1913, pp. 40-42.

The material on which these notes are based is in the National Museum.

——— **A new bot-fly from reindeer.**

Proc. Biol. Soc. Washington, 26, June 30, 1913, pp. 155, 156.

——— (See also under **Harrison G. Dyar**, **L. O. Howard** and **J. R. Malloch**.)

——— and **R. A. Cooley**. *Symphoromyia* as a blood-sucker.

Proc. Ent. Soc. Washington, 14, No. 3, Sept. 30, 1912, pp. 161, 162.

——— and **J. R. Malloch**. New Australian Diptera from ants' nests.

Trans. Royal Soc. of South Australia, 36, 1912, pp. 233-237.

Contains descriptions of 3 new species of which the types are in the National Museum.

KNAB, FREDERICK and J. R. MALLOCH. A Borborid from an epiphytic Bromeliad (Diptera; family Borboridae.)

Ent. News, 23, No. 9, Nov., 1912, pp. 418-415, 1 fig.

Description of 1 new species, of which the type is in the National Museum.

MALLOCH, J. R. New Diptera from Panama.

Smithsonian Misc. Colls., 59, No. 17, July 18, 1912, pp. 1-8.

Five new species are described and new specific names are proposed for two preoccupied names. The types of the new species are in the National Museum.

——— **Three new species of Pipunculidae (Diptera) from Panama.**

Smithsonian Misc. Colls., 60, No. 1, Sept. 6, 1912, pp. 1-4, 3 figs.

——— **New American dipterous insects of the family Pipunculidae.**

Proc. U. S. Nat. Mus., 43, No. 1334, Oct. 19, 1912, pp. 291-299, 1 fig.

Describes 9 new species, the types of which are in the National Museum.

——— **Certain generic names in Phoridae (Dipt.).**

Ent. News, 23, No. 8, Oct., 1912, pp. 356-358.

Contains remarks on the generic names with reference to the work on this family issued by the National Museum.

——— **The insects of the dipterous family Phoridae in the United States National Museum.**

Proc. U. S. Nat. Mus., 43, No. 1333, Dec. 14, 1912, pp. 411-529, pls. 35-41.

Two new genera; 88 new species and 2 new varieties are described, and 2 new names are proposed for preoccupied generic names. The types are in the National Museum.

——— **One new genus and eight new species of dipterous insects in the United States National Museum collection.**

Proc. U. S. Nat. Mus., 43, No. 1945, Dec. 31, 1912, pp. 649-658, pl. 46.

——— **Descriptions of new species of American flies of the family Borboridae.**

Proc. U. S. Nat. Mus., 44, No. 1358, Feb. 20, 1913, pp. 31-3/2.

Ten new species are described. The types are in the National Museum.

MALLOCH, J. R. Two new species of Diptera in the United States National Museum collection.

Proc. U. S. Nat. Mus., 44, No. 1902, Feb. 20, 1913, pp. 461-463.

— A new genus and two new species of Chloropidae (Diptera).

Insector Insectis Menstruus, 1, No. 4, Apr. 30, 1913, pp. 46-48.

— Notes on some American Diptera of the genus *Fannia*, with descriptions of new species.

Proc. U. S. Nat. Mus., 44, No. 1972, Apr. 30, 1913, pp. 621-631, pl. 77.

Five new species are described. The types are in the National Museum.

— Four new species of North American Chloropidae.

Insector Insectis Menstruus, 1, No. 5, May 31, 1913, pp. 60-64.

— Three new species of Anthomyiidae (Diptera) in the United States National Museum collection.

Proc. U. S. Nat. Mus., 45, No. 2004, June 11, 1913, pp. 603-607.

— The genus *Parodinia* Coquillett (Geomyzidae, Dipt.).

Ent. News, 24, No. 6, June, 1913, pp. 274-276.

One new species is described. The type is in the National Museum.

— A new genus and three new species of Phoridae from North America, with notes on two recently erected genera (*Crepidopachys* and *Pronomiophora* Enderlein).

Psyche, 20, No. 1, 1913, pp. 23-26, 1 fig.

— (See also under F. Knab.)

— and F. KNAB. *Limosina mirabilis* Collin, a species of Borboridae new to the United States.

Psyche, 19, No. 6, Jan., 1913, p. 199, 1 fig.

PIERCE, W. DWIGHT. Miscellaneous contributions to the knowledge of the weevils of the families Attelabidae and Brachyrhinidae.

Proc. U. S. Nat. Mus., 45, No. 1988, May 23, 1913, pp. 365-426.

Four new genera, 2 new subgenera, 24 new species and 9 new varieties are described. The types are in the National Museum.

REHN, JAMES A. G. Notes on African Orthoptera of the families Mantidae and Phasmidae in the United States National Museum, with descriptions of new species.

Proc. U. S. Nat. Mus., 42, No. 1910, Aug. 29, 1912, pp. 461-476, figs. 1-17.

Ten new species are described and 1 new specific name is proposed for a misidentified species.

ROHWER, S. A. The sawflies (Chalastogastra) of Boulder County, Colorado.

Univ. of Colorado Studies, 9, No. 2-3, May, 1912, pp. 91-104.

— A new species of Eucerceris.

Bull. Amer. Mus. Nat. Hist., 31, Art. 24, Sept. 13, 1912, pp. 323-326. (In an article by John A. Grossbeck.)

— Some Canadian sawflies collected by Frederick Knab.

Can. Ent., 44, No. 9, Sept. 18, 1912, p. 276.

The specimens on which this paper is based are in the National Museum.

— Studies in the woodwasp superfamily Oryssioidea, with descriptions of new species.

Proc. U. S. Nat. Mus., 43, No. 1925, Sept. 27, 1912, pp. 141-158, pls. 32, 33, figs. 1-6.

In this review, 5 new species, of which the types are in the National Museum, are described, and a table of the species of the genus *Orysus* is given.

— Notes on sawflies, with descriptions of new species.

Proc. U. S. Nat. Mus., 43, No. 1930, Sept. 30, 1912, pp. 206-251, figs. 1-6.

Eight new genera, 2 new subgenera, 60 new species, 1 subspecies and 1 new variety are described, and a new name is given for a preoccupied specific name. The types are in the National Museum.

— Chalcidids injurious to forest-tree seeds.

U. S. Dept. Agr., Bur. Ent., Tech. Ser. No. 20, pt. VI, Feb. 10, 1913, pp. 157-163.

The material on which this paper is based is in the National Museum.

ROHWER, S. A. Results of the Yale Peruvian Expedition of 1911. Hymenoptera, superfamilies Vespoidea and Sphecoidea.

Proc. U. S. Nat. Mus., 44, No. 1900, Feb. 20, 1913, pp. 439-454, 1 fig.

Fourteen new species are described. The types are in the National Museum.

— A synopsis, and descriptions of the nearctic species of sawflies of the genus *Xyela*, with descriptions of other new species of sawflies.

Proc. U. S. Nat. Mus., 45, No. 1981, May 22, 1913, pp. 265-281, 1 fig.

One new genus and 21 new species are described. The types are in the National Museum.

— New parasitic Hymenoptera belonging to the tribe Xoridini.

Proc. U. S. Nat. Mus., 45, No. 1986, May 22, 1913, pp. 353-361.

Eleven new species are described. The types are in the National Museum.

— Descriptions of thirteen new species of parasitic Hymenoptera and a table to certain species of the genus *Ecphyllus*.

Proc. U. S. Nat. Mus., 45, No. 1991, June 4, 1913, pp. 533-540.

TOWNSEND, CHARLES H. T. Descriptions of new genera and species of muscoid flies from the Andean and Pacific Coast regions of South America.

Proc. U. S. Nat. Mus., 43, No. 1986, Nov. 22, 1912, pp. 301-367.

Thirty-seven genera and 72 new species are described. The types are in the National Museum.

VIERECK, H. L. Contributions to our knowledge of bees and ichneumon-flies, including the descriptions of twenty-one new genera and fifty-seven new species of ichneumon-flies.

Proc. U. S. Nat. Mus., 42, No. 1920, Aug. 29, 1912, pp. 613-648, figs. 1, 2.

— Descriptions of one new family, eight new genera, and thirty-three new species of ichneumon-flies.

Proc. U. S. Nat. Mus., 43, No. 1942, Dec. 31, 1912, pp. 575-593.

— Results of the Yale Peruvian Expedition of 1911. Hymenoptera—Ichneumonoides.

Proc. U. S. Nat. Mus., 44, No. 1964, Feb. 20, 1913, pp. 460, 470.

Three new species are described. The types are in the National Museum.

— Descriptions of ten new genera and twenty-three new species of ichneumon-flies.

Proc. U. S. Nat. Mus., 44, No. 1968, Apr. 18, 1913, pp. 555-568.

— Descriptions of six new genera and twelve new species of ichneumon-flies.

Proc. U. S. Nat. Mus., 44, No. 1974, Apr. 18, 1913, pp. 639-648.

WILSON, CHARLES BRANCH. Dragon flies of the Cumberland Valley in Kentucky and Tennessee.

Proc. U. S. Nat. Mus., 43, No. 1928, Sept. 7, 1912, pp. 189-200.

List of species obtained during a trip in 1911, with notes on their observed range and habits.

CRUSTACEANS.

DOOLITTLE, ALFRED A. Notes on the occurrence of the crustacean *Alonopsis* in America, with description of a new species.

Proc. U. S. Nat. Mus., 43, No. 1940, Dec. 31, 1912, pp. 561-565, pls. 42, 43.

Notes the occurrence of 2 species of the entomostracan genus *Alonopsis* in the stomachs of bass and trout in Sebago Lake, Maine, and Sunapee Lake, New Hampshire. One of the species, *A. aureola*, is described as new.

FAXON, WALTER. (See under Mary J. Rathbun.)

HANSEN, H. J. Reports on the scientific results of the expedition to the tropical Pacific, in charge of Alexander Agassiz, by the U. S. Fish Commission steamer "Albatross," from August, 1899, to March, 1900, Commander Jefferson F. Moser, U. S. N., commanding. XVI.

Reports on the scientific results of the expedition to the eastern tropical Pa-

HANSEN, H. J.—Continued.

cific, in charge of Alexander Agassiz, by the U. S. Fish Commission steamer "Albatross," from October, 1904, to March, 1905, Lieut. Commander L. M. Garrett, U. S. N., commanding. XXVII.

The Schizopoda.

Memoirs Mus. Comp. Zool., 35, No. 4, July, 1912, pp. 173-286, pls. 1-12.

Deals with 63 species of Mysidacea and Euphausiacea. Of the Mysidacea, 2 new genera, *Cryptomysis* and *Dacomysis*, are described, and 8 new species, *C. lamellicauda*, *D. pelagica*, *Borcomysis media*, *B. fragilis*, *Hemistriella abbreviata*, *Anchialina obtusifrons*, *Gastrosaccus pacificus* and *Euchetomera plebeja*. The little known *Chalaraspis alata*, the type of which was lost, is redescribed. Of the Euphausiacea, 6 species were found for the first time, but preliminary descriptions appeared in the Bulletin de l'Institut Océanographique, No. 210, May 20, 1911.

MARSH, C. DWIGHT. Report on fresh-water Copepoda from Panama, with descriptions of new species.

Smithsonian Misc. Colls., 61, No. 3, June 20, 1913, pp. 1-30, pls. 1-5.

Gives a general survey of the plankton collections of the Smithsonian biological survey of the Panama Canal Zone. Notes the occurrence of diatoms, filamentous algae, desmids, protozoans, rotifers, cladocerans and ostracods in addition to the copepods. Fifteen species of the latter are described, of which 7 are new. Gives general observations on the distribution of the Panamanian copepods and closes with a bibliography of the papers quoted in the report.

PEARSE, ARTHUR S. Notes on certain amphipods from the Gulf of Mexico, with descriptions of new genera and new species.

Proc. U. S. Nat. Mus., 43, No. 1936, Nov. 20, 1912, pp. 369-379, figs. 1-8.

Twenty-eight species are enumerated of which 3 are new: *Lembopais spinicarpus*, type of a new genus of the family Aoridae, *Chevalia mexicana*, and *Unciola laminosa*.

— Notes on a small collection of amphipods from the Pribilof Islands, with descriptions of new species.

Proc. U. S. Nat. Mus., 45, No. 1998, June 4, 1912, pp. 571-573, figs. 1, 2.

PEARSE, ARTHUR S.—Continued.

Five species of amphipods were collected on St. Paul Island by Mr. M. C. Marsh and Mr. W. L. Hahn of the U. S. Bureau of Fisheries. Two of the species, *Gammarus pribilofensis* and *Chironesimus multarticulatus*, are described as new.

RATHBUN, MARY J. Some Cuban Crustacea. With notes on the Astacidae, by Walter Faxon, and a list of Isopoda, by Harriet Richardson.

Bull. Mus. Comp. Zool., 54, No. 15, Oct., 1912, pp. 451-460, pls. 1-5.

Description of a collection obtained by Dr. Thomas Barbour, and of some additional specimens from Dr. Carlos de la Torre. Two new species of shrimps are included, *Palaeomonetes calce* and *Barbouria poeyi*, the latter the type of a new genus; also a new subspecies of crayfish, *Cambarus cubensis rivalis* Faxon.

— Descriptions of new species of crabs of the family Ocypodidae.

Proc. U. S. Nat. Mus., 44, No. 1971, Apr. 30, 1913, pp. 615-620, pls. 74-76.

All are Indo-Pacific species; 3 are fiddler-crabs, *Uca zamboangana* and *U. mearnsi*, both from the Philippines, and *U. novaequinez*; while the fourth is a *Macrophthalmus*, *M. crinitus*, from the Moluccas.

RICHARDSON, HARRIET. Description of a new terrestrial isopod belonging to the genus Cubaris from Panama.

Proc. U. S. Nat. Mus., 42, No. 1911, Aug. 29, 1912, pp. 477-479, figs. 1, 2.

Cubaris longispinus, based on specimens collected at Porto Ballo, Panama, by Mr. E. A. Schwarz.

— Descriptions of two new parasitic isopods belonging to the genera Palaeogyge and Probopyrus from Panama.

Proc. U. S. Nat. Mus., 42, No. 1914, Aug. 29, 1912, pp. 521-524, figs. 1-8.

Based on material collected by Dr. S. E. Meek and Mr. S. F. Hildebrand during a biological survey of the Isthmus of Panama under the auspices of the Smithsonian Institution. The species were parasitic on various species of shrimps of the genus *Macrobrachium*.

— Description of a new species of isopod belonging to the genus Apeudes from Ecuador.

Proc. U. S. Nat. Mus., 42, No. 1918, Aug. 29, 1912, pp. 583-585, 1 fig.

RICHARDSON, HARRIET—Continued.

Apeudes meridionalis, collected by the U. S. Bureau of Fisheries steamer "Albatross," off Cape San Lorenzo, Ecuador, in 401 fathoms. The description is followed by a list of the species of *Apeudes* with references to the publications where they are described.

— Descriptions of two new isopods, an *Apeudes* and a *Munnopsis*, both from the Galapagos Islands.

Proc. U. S. Nat. Mus., 43, No. 1926, Sept. 7, 1912, pp. 159-162, figs. 1-4.

Apeudes galapagensis and *Munnopsis longiremis* are described from a depth of 812 fathoms, off Chatham Island, at station 2807 of the U. S. Fisheries steamer "Albatross."

— Descriptions of a new genus of isopod crustaceans, and of two new species from South America.

Proc. U. S. Nat. Mus., 43, No. 1929, Sept. 27, 1912, pp. 201-204, figs. 1, 2.

Describes a new genus, *Excirolana*, of which the type is *Excirolana* (= *Cirolana*) *orientalis* (Dana), and 2 new species, *E. chilensis* and *E. braziliensis*.

— Note on an isopod name.

Proc. Biol. Soc. Washington, 25, Dec. 24, 1912, p. 188.

Changes the name of *Livoneca longistylis* Richardson, 1912, not Dana, 1853, to *L. tenuistylis*.

— Terrestrial isopods collected in Costa Rica by Mr. Picado, with the description of a new genus and species.

Proc. U. S. Nat. Mus., 44, No. 1964, Feb. 20, 1913, pp. 337-340, figs. 1-5.

A new genus and species, *Pentonicus* and *P. pruinorus*, are described, and 2 other species noted.

RICHARDSON, HARRIET. The isopod genus *Ichthyoxenus* Herklots, with description of a new species from Japan.

Proc. U. S. Nat. Mus., 45, No. 1966, June 4, 1913, pp. 559-562, figs. 1-6.

Reviews the history of the genus *Ichthyoxenus*, describes a new species, *I. japonensis*, and records the occurrence of *I. jellinghausi* at Buitenzorg.

— (See also under Mary J. Rathbun.)

WILSON, CHARLES BRANCH. Parasitic copepods from Nanaimo, British Columbia, including eight species new to science.

Contr. to Canadian Biology, 1906-1910, Ottawa (1912), pp. 85-101, pls. 3-8.

An account of specimens collected at the Pacific coast Biological Station of the Department of Marine and Fisheries of Canada. A set of specimens including the types of the new species have been given to the U. S. National Museum. The new species are *Argulus borealis*, *Lepeophtheirus praeceps*, *L. nanaimocensis*, *Chondracanthus palpifer*, *C. pinguis*, *Cleavelle parva*, *C. robusta*, and *Brechella dentata*. The little known species, *Argulus pugettensis* Dana, is also fully described.

— Crustacean parasites of West Indian fishes and land crabs, with descriptions of new genera and species.

Proc. U. S. Nat. Mus., 44, No. 1950, Apr. 3, 1913, pp. 189-277, pls. 18-53.

Gives a general account of the parasites found on fishes, crustaceans, and ascidians, obtained during three months' stay at the biological laboratory of Johns Hopkins University at Montego Bay, Jamaica. Descriptions and drawings of the parasitic copepods and ostracods were made from living specimens. Fifty-two species of copepods, of which 31 are new to science, and 1 species of ostracod are described.

WORMS.

ELLIS, MAX M. A new discodrilid worm from Colorado.

Proc. U. S. Nat. Mus., 42, No. 1912, Aug. 29, 1912, pp. 481-486, figs. 1-5.

Describes a new genus and species of discodrilid, *Cumbarincola macrodonta*, living on a crayfish, *Cambarus diogenes*; also gives a key to the Discodrilidae of the United States east of the Rocky Mountains.

GEROULD, JOHN HIRAM. The sipunculids of the eastern coast of North America.

Proc. U. S. Nat. Mus., 44, No. 1969, Apr. 12, 1913, pp. 373-437, pls. 58-62, figs. 1-16.

Based on material collected chiefly by the U. S. Fish Commission, now the Bureau of Fisheries, during 40 years. Discusses 7 genera, 23 species

GEROULD, JOHN HIRAM—Continued.

and 10 varieties, of which 5 species and 8 varieties are described as new.

HARRING, HARRY K. Synopsis of the Rotatoria.

Bull. U. S. Nat. Mus., 81,
June 28, 1913, pp. 1-226.

HARRING, HARRY K.—Continued.

An alphabetic and synonymic list of all the genera and species of the Rotatoria, prefaced by a table showing the classification into orders, families and genera, and followed by a full bibliography in which is indicated the library where each work was consulted.

ECHINODERMS.

CLARK, AUSTIN HOBART. Preliminary descriptions of eleven new crinoids belonging to the families Himerometridæ, Mariametridæ and Colobometridæ, discovered by the "Siboga" in the Dutch East Indies.

Ann. Mag. Nat. Hist., 8th series, 10, No. 55, July, 1912, pp. 31-41.

The new species described form part of the "Siboga" collection. A set of duplicates will be deposited in the National Museum.

— The homologies of the so-called anal, and other plates in the pentacrinoid larvae of the free crinoids.

Journ. Washington Acad. Sci., 2, No. 13, July 19, 1912, pp. 309-314.

— The crinoids of the Natural History Museum at Hamburg.

Smithsonian Misc. Coll., 60, No. 10, Nov. 7, 1912, pp. 1-33.

The collection of the Hamburg Museum was examined partly in Hamburg and partly in Washington. Photographs were made of all the types and other specimens of more than usual interest for the files of the National Museum.

— The crinoids of the Museum fuer Naturkunde, Berlin.

Proc. U. S. Nat. Mus., 43, No. 1937, Nov. 20, 1912, pp. 381-410.

This is a detailed account of the crinoids contained in the Berlin Museum, including a redescription of the types of Müller, Carpenter and Hartlaub. A set of duplicates is in the National Museum.

— The crinoids of the Indian Ocean.

Echinodermata of the Indian Museum, pt. 7, Crinoidea, 1912, pp. 1-III, 1-326, 61 text figures.

This is a comprehensive monograph of the crinoids of the Indo-Pacific

CLARK, AUSTIN HOBART—Continued.

region, including a historical introduction, keys to all the genera and higher groups, and a bibliography. A set of duplicates from the collections upon which it is based is in the National Museum.

— On a collection of recent crinoids from the waters about Ireland.

Dept. Agr. and Tech. Instr. for Ireland, Fisheries Branch, Sci. Investigations, 1912, No. 4, pp. 1-5.

This is a description of a collection of crinoids made by the Irish Fishery Cruiser "Helga" off the west coast of Ireland. A set of duplicates, including the types of the new species, will be deposited in the National Museum.

FISHER, WALTER K. Four new genera and fifty-eight new species of starfishes from the Philippine Islands, Celebes, and the Moluccas. [Scientific results of the Philippine cruises of the Fisheries steamer "Albatross," 1907-1910.—No. 23.]

Proc. U. S. Nat. Mus., 43, No. 1944, Feb. 5, 1913, pp. 509-648.

Contains preliminary descriptions of 4 new genera and 58 new species belonging to 4 families, the Porcellanasteridae, Gonioplectrinidae, Astropectinidae and Gonasteridae. The new genera are *Ctenopleura*, *Astromeris*, *Perissogonaster*, and *Astrotheuma*.

KOEHLER, R. Ophiures.

Zool. Jahrbücher, Suppl., 11, (=Ergebnisse einer zoologischen Forschungsreise nach Westindien von Prof. W. Kükenthal und Dr. R. Hartmeyer im Jahr 1907.) Heft 3, 1913, pp. 351-380, pls. 20, 21.

In describing a new species of *Amphiprora* collected by Kükenthal and Hartmeyer, the author refers to,

KOEHLER, R.—Continued.

and for comparison briefly describes, a new species, *A. fibulata*, from the collection of the U. S. Fisheries steamer "Albatross." This species is to be described in full later.

MITSUKURI, K. Studies on actinopodous Holothurioides.

Journ. College of Science, Imp. Univ. Tokyo, 20, Art. 2, July 10, 1912, pp. 1-284, pls. 1-8.

While this is mainly a study of Japanese forms collected by Japanese,

MITSUKURI, K.—Continued.

there are included these actinopodous holothurians obtained by the U. S. Fisheries steamer "Albatross" on its cruise to the South Pacific in 1899-1900 under the direction of Dr. Alexander Agassiz. There are eight species in this collection. There is also included a new species, *Ankyrodarma diomedea*, founded on a single individual taken by the "Albatross" in 1906 in Japanese waters. These specimens will come to the National Museum.

BRYOZOANS.

OSBURN, RAYMOND C. Bryozoa from Labrador, Newfoundland, and Nova Scotia, collected by Dr. Owen Bryant.

Proc. U. S. Nat. Mus., 43, No. 1933, Nov. 20, 1912, pp. 275-289, pl. 34.

An account of the bryozoans dredged by Dr. Owen Bryant during

OSBURN, RAYMOND C.—Continued.

a cruise made between latitude 58° on the coast of Labrador to latitude 43° off Cape Sable, Nova Scotia, in depths of 5 to 110 fathoms. Fifty-two species belonging to 26 genera are enumerated.

CELENTERATES.

BIGELOW, HENRY B. Preliminary account of one new genus and three new species of Medusæ from the Philippines. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 22.]

Proc. U. S. Nat. Mus., 43, No. 1931, Nov. 20, 1912, pp. 253-260.

The new genus described is *Nesarchus*. The new species are *N. aethiops*, *Protiersia tropica*, and *Zygocanna vagans*.

Medusæ and Siphonophoræ collected by the U. S. Fisheries steamer "Albatross" in the northwestern Pacific, 1906.

Proc. U. S. Nat. Mus., 44, No. 1946, Mar. 26, 1913, pp. 1-119, pls. 1-6, figs. 1, 2.

Describes 58 species of Medusæ and 22 of Siphonophoræ, of which 5 species and 1 variety of Medusæ are new. Among the rare forms is *Clauserophyes galatæa*, which is described in detail; while the range of *Diphyes truncata* is greatly extended.

FRASER, C. McLEAN. Some hydroids of Beaufort, North Carolina.

Bull. Bur. Fisheries, 20, 1910, No. 762, July 23, 1912, pp. 330-387, figs. 1-82.

FRASER, C. McLEAN—Continued.

Treats of 51 species, giving keys to the families, genera and species, and describing and figuring each species. A new family (Hebellidae), a new genus (*Scandia*) and a new species (*Hydractinia carolinæ*) are described. The first set of the material will come to the National Museum.

McMURRICH, J. PLAYFAIR. Description of a new species of actinian of the genus *Edwardsiella* from southern California.

Proc. U. S. Nat. Mus., 44, No. 1967, Apr. 18, 1913, pp. 551-553, 1 fig.

Describes the new species, *Edwardsiella californica*, collected at Anaheim Bay, and given to the National Museum by the University of Southern California.

NUTTING, CHARLES C. Descriptions of the Alcyonaria collected by the U. S. Fisheries steamer "Albatross," mainly in Japanese waters, during 1906.

Proc. U. S. Nat. Mus., 43, No. 1923, Nov. 23, 1912, pp. 1-104, pls. 1-21.

The collection contains representatives of 19 families, 54 genera, and 102 species, of which 2 genera, *Helicopodium* and *Primonodentron*, and 40 species are described as new.

PROTOZOANS.

CUSHMAN, JOSEPH A. New Textulariidae and other arenaceous Foraminifera from the Philippine Islands and contiguous waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 25.]

CUSHMAN, JOSEPH A.—Continued.

Proc. U. S. Nat. Mus., 44, No. 1973, Apr. 30, 1913, pp. 633-638, pls. 78-80.

Describes 13 species of Foraminifera of the family Textulariidae with three exceptions belonging to the Astrorhizidae and Lituolidae.

BOTANY.

BRITTON, N. L., and J. N. ROSE. Studies in Cactaceae — 1.

Contr. U. S. Nat. Herb., 16, pt. 7, Apr. 10, 1913, pp. 230-242, pls. 66-73.

——— The genus *Epiphyllum* and its allies.

Contr. U. S. Nat. Herb., 16, pt. 9, June 6, 1913, pp. 255-262, pls. 78-84.

COOK, O. F. Ivory palms in Panama.

Journ. Washington Acad. Sci., 3, No. 5, Mar. 4, 1913, pp. 138-143.

Includes descriptions of 5 new species of *Phytolaphs* from Panama.

——— A new generic name for the sapote.

Journ. Washington Acad. Sci., 3, No. 6, Mar. 19, 1913, pp. 158-160.

The new generic name *Acradelpha*, with *Acradelpha sumatrensis* (L.) Cook as its type, is proposed for the tropical American fruit described by Linnaeus as *Achras memmosa*.

——— Relationships of the false date palm of the Florida Keys, with a synoptical key to the families of American palms.

Contr. U. S. Nat. Herb., 16, pt. 8, May 14, 1913, pp. 243-264, pls. 74-77.

The author discusses the affinities of *Pseudophoenix carpentii* and establishes the new families Pseudophoenicaceae, Geonomaceae, Malortiacaceae, Chamaedoraceae, Iriartaceae, Synechanthaceae, and Acoriaceae.

——— and C. B. DOYLE. Three new genera of stilt palms (Iriartaceae) from Colombia, with a synoptical review of the family.

Contr. U. S. Nat. Herb., 16, pt. 6, Feb. 21, 1913, pp. 225-233, pls. 54-65, 1 fig.

Includes descriptions of the new genera *Acrostigma*, *Cotostigma*, and *Wattmelle*, and of the new species *A. equale*, *C. radiatum*, and *W. guineensis*.

DOYLE, C. B. (See under O. F. Cook.)

GREENE, EDWARD L. Certain asclepiads.

Leaflets, 2, Oct. 22, 1912, pp. 220-233.

——— Some new lupines.

Leaflets, 2, Oct. 22, 1912, pp. 233-236.

——— New species of *Cicuta*.

Leaflets, 2, Oct. 22, 1912, pp. 236-241.

——— Earlier history of our dogbanes, — I.

Leaflets, 2, Oct. 22, 1912, pp. 241-248.

——— Some Californian maples.

Leaflets, 2, Oct. 22, 1912, pp. 248-254.

——— Certain western roses.

Leaflets, 2, Oct. 22, 1912, pp. 254-260.

——— [Certain western roses; continued.]

Leaflets, 2, Nov. 6, 1912, pp. 261-266.

——— Three new Rhamnii.

Leaflets, 2, Nov. 6, 1912, pp. 266-267.

——— A handful of vetches.

Leaflets, 2, Nov. 6, 1912, pp. 267-270.

Description of 5 new species of *Vicia* from the western United States.

——— Miscellaneous specific types, — VI.

Leaflets, 2, Nov. 6, 1912, pp. 270-272.

Includes descriptions of new species of *Tellium*, *Claytonia*, *Tridophyllum*, and *Sieyirinchium*.

——— Western meadow rues, — I.

Amer. Midland Naturalist, 2, Nos. 11, 12, Oct., 1912, pp. 260-266.

Includes descriptions of 7 new species of *Thalictrum*.

HASSE, HERMANN EDWARD. The lichen flora of southern California.

Contr. U. S. Nat. Herb., 17, pt. 1, June 9, 1913, pp. 1-132.

Includes descriptions of several new species of lichens from California.

HITCHCOCK, A. S. Gramineæ.

In Urban, "*Symbolæ antillanæ*," 7, fasc. 2, 1912, pp. 166-168.

Includes descriptions of the following new species from the West Indies: *Paspalum breve* Chase, *Chloris leptantha* Hitchc., *Chloris Suringari* Hitchc., and *Eragrostis Urbaniana* Hitchc.

— A new species of *Andropogon*.

Botan. Gaz., 54, No. 5, Nov., 1912, p. 424.

Describes *Andropogon Urbanianus* Hitchc., new species, Santo Domingo.

LEWTON, FREDERICK L. Rubelzul cotton: A new species of *Gossypium* from Guatemala.

Smithsonian Misc. Colls., 60, No. 4, Oct. 21, 1912, pp. 1, 2, pls. 1, 2.

— *Kokia*: A new genus of Hawaiian trees.

Smithsonian Misc. Colls., 60, No. 5, Oct. 22, 1912, pp. 1-4, pls. 1-5.

— The cotton of the Hopi Indians: A new species of *Gossypium*.

Smithsonian Misc. Colls., 60, No. 6, Oct. 23, 1912, pp. 1-10, pls. 1-5.

MAXON, WILLIAM R. The tree ferns of North America.

Rep. Smithsonian Inst., 1911, No. 2120, Dec. 11, 1912, pp. 463-491, pls. 1-15.

— A new genus of davallioid ferns.

Journ. Washington Acad. Sci., 3, No. 5, Mar. 4, 1913, pp. 143, 144.

Describes the new genus *Sphenomeris*, allied to *Odontosoria*.

— Pteridophyta [of the southeastern United States.]

In Small, "*Flora Southeast. United States*," ed. 2, Apr. 23, 1913, pp. 1-31.

MAXON, WILLIAM R. *Saffordia*, a new genus of ferns from Peru.

Smithsonian Misc. Colls., 61, No. 4, May 26, 1913, pp. 1-5, pls. 1, 2, 1 fig.

Describes *Saffordia indica*, a new genus and species intermediate between *Doryopteris* and *Trachypteris*.

— Pteridophyta [except Equisetaceæ and Isctaceæ] of the Northern United States, Canada and the British Possessions.

In Britton & Brown, "*Illustrated Flora of the Northern United States, Canada and the British Possessions*," ed. 2, June 7, 1913, pp. 1-54.

— Studies of tropical American ferns—No. 4.

Contr. U. S. Nat. Herb., 17, pt. 2, June 20, 1913, pp. 133-179, pls. 1-10, figs. 1-7.

MILLER, G. S., jr., and PAUL C. STANDLEY. The North American species of *Nymphaea*.

Contr. U. S. Nat. Herb., 16, pt. 3, July 6, 1912, pp. 63-108, pls. 35-47, figs. 2-40.

Describes *Nymphaea bombycina*, *N. charitacea*, *N. ludoviciana*, *N. microcarpa*, *N. ovata*, *N. ozerkiana*, *N. puberula*, *N. silvacea*, new species, and *N. advena erythraea*, new subspecies.

PIPER, CHARLES V. Supplementary notes on American species of *Festuca*.

Contr. U. S. Nat. Herb., 16, pt. 5, Feb. 11, 1913, pp. 197-199.

— *Delphinium simplex* and its immediate allies.

Contr. U. S. Nat. Herb., 16, pt. 5, Feb. 11, 1913, pp. 201-203.

— The identity of *Heuchera cylindrica*.

Contr. U. S. Nat. Herb., 16, pt. 5, Feb. 11, 1913, pp. 205, 206.

— New or noteworthy species of Pacific coast plants.

Contr. U. S. Nat. Herb., 16, pt. 5, pp. 207-210.

ROSE, J. N. (See under N. L. Britton.)

ROSE, J. N., and PAUL C. STANDLEY.
The American species of *Meibomia* of
the section *Nephromeria*.

Contr. U. S. Nat. Herb., 16,
pt. 5, Feb. 11, 1913, pp.
211-216, pl. 51.

SAFFORD, W. E. *Papualthia Mariannæ*, a
new species of *Annonaceæ* from the
island of Guam.

*Journ. Washington Acad.
Sci.*, 2, No. 19, Nov. 19,
1912, pp. 450-463, figs. 1, 2.

— *Pseudannona*, a new genus of
Annonaceæ from the Mascarene Islands;
together with notes on *Artabotrys unci-*
natus and its synonymy.

*Journ. Washington Acad.
Sci.*, 3, No. 1, Jan. 4, 1913,
pp. 16-19.

— *Raimondia*, a new genus of *An-*
nonaceæ from Colombia.

Contr. U. S. Nat. Herb., 16,
pt. 5, Feb. 11, 1913, pp.
217-219, pls. 52, 53.

— *Chelonocarpus*, a new section of
the genus *Annona*, with descriptions
of *Annona scleroderma* and *Annona*
testudinea.

*Journ. Washington Acad.
Sci.*, 3, No. 4, Feb. 19,
1913, pp. 103-109, figs. 1-3.

Includes descriptions of two new
species, *Annona scleroderma* and *A.*
testudinea, from Mexico and Central
America, for which the new section
Chelonocarpus is proposed.

SMITH, JOHN DONNELL. Undescribed
plants from Guatemala and other Cen-
tral American republics, — XXXV.

Botan. Gaz., 54, No. 3, Sept.
21, 1912, pp. 235-244.

— Undescribed plants from Guate-
mala and other Central American re-
publics, — XXXVI.

Botan. Gaz., 55, No. 6, June
16, 1913, pp. 431-438.

STANDLEY, PAUL C. Some useful native
plants of New Mexico.

Rep. Smithsonian Inst.,
1911, No. 2119, Nov. 20,
1912, pp. 447-462, pls.
1-13.

— Plants of the Alpine Club expe-
dition to the Mount Robson region.

Canadian Alpine Journal,
Special Number, 1912
(Feb., 1913), pp. 76-97,
pls. 1-5.

Includes descriptions of several new
species of phanerogams.

— Five new plants from New Mexico.

Proc. Biol. Soc. Washing-
ton, 26, May 21, 1913, pp.
115-119.

— (See also under Gerrit S. Miller, jr.,
J. N. Rose and E. O. Wooton.)

STEELE, E. S. Four new species of
goldenrod from the eastern United
States.

Contr. U. S. Nat. Herb., 16,
pt. 5, Feb. 11, 1913, pp.
221-224.

The writer describes 4 new species
of *Solidago* from Wisconsin, Minne-
sota, Michigan, and Indiana.

SWINGLE, W. T. *Chaetospermum*, a new
genus of hard-shelled citrous fruits.

*Journ. Washington Acad.
Sci.*, 3, No. 4, Feb. 19,
1913, pp. 99-102, 1 fig.

TIDESTROM, IVAR. A new *Salicornia*.

Proc. Biol. Soc. Washing-
ton, 26, Jan. 18, 1913, pp.
13, 14.

Describes *S. stahelskii*, the type of
which is in the National Museum.

WOOTON, E. O., and PAUL C. STANDLEY.
Descriptions of new plants preliminary
to a report upon the flora of New
Mexico.

Contr. U. S. Nat. Herb., 16,
pt. 4, Feb. 12, 1913, pp.
109-196, pls. 48-80.

GEOLOGY AND MINERALOGY.

GOLDSCHMIDT, V. (See under Joseph E
Pogue.)

MERRILL, GEORGE P. A recent meteorite
fall near Holbrook, Navajo County,
Arizona.

Smithsonian Misc. Coll.,
60, No. 9, Nov. 21, 1912,
pp. 1-4.

Gives an account of the fall and
description of the composition and

MERRILL, GEORGE P.—Continued.

structure of the stone, including a
chemical analysis by Dr. J. E. Whit-
field.

— A newly found meteoric iron from
Perryville, Perry County, Missouri.

Proc. U. S. Nat. Mus., 43,
No. 1943, Dec. 31, 1912,
pp. 506-507, pls. 44, 45.

Gives a description of the iron as
found, with figures of the complete

MERRILL, GEORGE P.—Continued.

individual, and an etched surface, enlarged. Its resemblance to the Ballinoo, West Australia, iron is noted, and the results of a chemical analysis by Dr. J. E. Whitfield are given in comparison with an average of two analyses of the Ballinoo iron. The occurrence of ruthenium in a meteoric iron is here noted for the first time.

—— A newly found meteorite from near Cullison, Pratt County, Kansas.

Proc. U. S. Nat. Mus., 44, No. 1952, Apr. 12, 1913, pp. 325-330, pls. 54, 55.

Notes the reported fall of this meteoric stone on December 22, 1902, and its find in 1911. A description and figures of the entire mass as found, and of a polished slice, are given. Chemical and mechanical analyses of the stone, by Dr. J. E. Whitfield, are followed by a discussion of the results by the author.

—— On the minor constituents of meteorites.

Amer. Journ. Sci., 4th ser., 35, May, 1913, pp. 509-525.

The author takes up the discussion of the nongaseous elements, the reported occurrence of which has seemed open to question. A review of the reported occurrence in meteorites of arsenic, antimony, copper, gold, lead, lithia, platinum, palladium, iridium, tin, titanium, vanadium, and zinc is followed by a record of results of careful determinations on 11 meteorites by Dr. J. E. Whitfield, and a discussion of these results by the author. This work was done under a grant from the National Academy of Sciences.

MERRILL, GEORGE P. Notes on concretions from Mexican oil wells.

Bull. Geol. Soc. Amer., 24, June 10, 1913, pp. 263, 264, pls. 5, 6.

Describes the structure and composition, and discusses the origin of some calcareous concretions submitted by Dr. I. C. White and is published as part of his paper entitled "Petroleum fields of northeastern Mexico between the Tamesi and Tuxpam Rivers."

POGUE, JOSEPH E. The aboriginal use of turquois in North America.

Amer. Anthropologist, n. s., 14, No. 3, July-Sept., 1912, pp. 437-466, pls. 20-32.

Gives a detailed review of the application of turquois among the North American aboriginal tribes of both past and present times.

—— On a cerussite twin from the Mammoth Mine, Pinal County, Arizona.

Amer. Journ. Sci., 4th ser., 35, Jan., 1913, pp. 90-92, 2 figs.

Describes and figures a cerussite crystal twinned after the rare r-law.

—— and V. GOLDSCHMIDT. On quartz from Alexander County, North Carolina.

Amer. Journ. Sci., 4th ser., 34, Nov., 1912, pp. 414-420, figs. 1-4.

A crystallographic description of two quartz crystals with rare and new faces. One of the specimens, showing three new faces, is the property of the U. S. National Museum.

—— Zwei Quarze von Alexander County.

Zeitschr. für Kristallographie und Mineralogie, 51, Heft 3, 1912, pp. 266-273, figs. 1-4.

A reprint in German of the matter in the preceding paper.

PALEONTOLOGY.

BERRY, EDWARD W. A fossil flower from the Eocene.

Proc. U. S. Nat. Mus., 45, No. 1980, June 13, 1913, pp. 261-263, pl. 21, 1 fig.

Describes and figures a new genus and species of fossil flower, *Combreanthites eocenica*.

CLARKE, JOHN M., and RUDOLF RUEDEMANN. The Eurypterida of New York.

N. Y. State Mus., Memoir 14, 1912, 1, pp. 1-439, frontispiece, 121 figs; 2, pp. 441-628, 88 pls.

A monograph on the Eurypterida of New York. A number of spec-

CLARKE, JOHN M., and RUDOLF RUEDEMANN—Continued.

imens belonging to the National Museum are used as the basis of descriptions and figures.

COCKERELL, T. D. A. Some fossil insects from Florissant, Colorado.

Proc. U. S. Nat. Mus., 44, No. 1955, Apr. 30, 1913, pp. 341-346, pl. 56, 3 figs.

Describes 5 species, 3 of which are new, and founds the new genus *Eobruneria*. Four of the specimens described are in the National Museum.

COCKERELL, T. D. A. Two fossil insects from Florissant, Colorado, with a discussion of the venation of the Aeshnine dragon-flies.

Proc. U. S. Nat. Mus., 45,
No. 2000, June 21, 1913,
pp. 577-583, 3 figs.

Gives a description and figure of a new species belonging to the family Aeshnidae, followed by a key to the principal genera of Aeshninae, based on the venation.

GIDLEY, JAMES WILLIAMS. Notice of the occurrence of a Pleistocene camel north of the Arctic Circle.

Smithsonian Misc. Colls.,
60, No. 26, Mar. 21, 1913,
pp. 1, 2.

A brief account of the discovery of a single phalanx of a camel found associated with remains of an undoubted Pleistocene fauna, from a locality on Old Crow River, Yukon Territory, well within the Arctic Circle. The discovery extends the known distribution of this important group of quadrupeds and furnishes further evidence of milder climatic conditions in Alaska during at least a part of the Pleistocene, and favors the theory of an Asiatic-Alaskan land connection during that period.

— An extinct American eland.

Smithsonian Misc. Colls.,
60, No. 37, Mar. 22, 1913,
pp. 1-3, pl. 1.

A new species of Pleistocene antelope, apparently closely related to the living eland of Africa, is described. Its probable migration in Pleistocene times, its relationship with the antelope, and former known distribution are also briefly discussed. It is suggested that the species here described, represented by a specimen from a Cumberland, Maryland, cave deposit, found its way from some locality in Asia across a then existing land connection between Asia and Alaska, thence migrating directly to the eastern coast region by a route north of the Great Lakes.

— A recently mounted zeuglodon skeleton in the United States National Museum.

Proc. U. S. Nat. Mus., 44,
No. 1978, Apr. 30, 1913,
pp. 640-654, pls. 31, 32,
figs. 1-3.

A brief history of the finding and preparation of the specimen is given, with figures and description of the mounted skeleton. Its probable re-

GIDLEY, JAMES WILLIAMS—Continued.

lationships to other groups of mammals is briefly discussed. The proposition advanced by Abel, who held that the pelvic bones had been wrongly interpreted by Lucas, contending that they represented the coracoids of a large bird (*Alabamornis gigantea*), is discussed and refuted as being untenable.

GILMORE, CHARLES W. A new dinosaur from the Lance formation of Wyoming.

Smithsonian Misc. Colls.,
61, No. 5, May 24, 1913,
pp. 1-5, 5 figs.

A preliminary description of *Thecelosaurus neglectus*, a new genus and species of the Ornithopoda.

HAY, OLIVER P. Notes on some fossil horses, with descriptions of four new species.

Proc. U. S. Nat. Mus., 44,
No. 1969, Apr. 30, 1913,
pp. 550-564, pls. 69-73,
28 figs.

The status of the two species *Equus fraternus* Leidy and *E. complicatus* Leidy is here discussed at length. It is pointed out that the type selected by Cope for the former remains the type according to the established rules of nomenclature, the one later selected by Gidley having no standing. Thus *E. fraternus* becomes a rather indeterminate species, not readily distinguished from *E. complicatus*, while a new name and new type are selected to represent the smaller species described by Leidy and later discussed by Gidley. Three new species of horses are described.

— Description of the skull of an extinct horse, found in central Alaska.

Smithsonian Misc. Colls.,
61, No. 2, June 4, 1913,
pp. 1-18, pls. 1, 2, figs. 1-8.

Describes a new subspecies of horse (*Equus niobrarensis alaskae*) founded on a nearly complete skull from near Toffy, Alaska. The author notes that the Alaskan skull differs but slightly from *Equus niobrarensis* Hay, with which he compares it, but concludes that it should be signalized as a distinct form. Comparison is also made with *E. przewalskyi* and other living species. Discusses at length other discoveries of horse remains in Alaska and the Yukon Territory, and gives a map showing the known localities where the remains of fossil horses have been found in this region. The paper contains tables of com-

HAY, OLIVER P.—Continued.

parative measurements, including one giving the indices showing the extension forward of the protocone in *Egus*. The specimen has been lent to the National Museum for exhibition.

KNOWLTON, F. H. Results of a paleobotanical study of the coalbearing rocks of the Raton Mesa region of Colorado and New Mexico.

Amer. Journ. Sci., 4th ser., 35, May, 1913, pp. 526-530.

A study of the fossil plants shows that the coalbearing section of the Raton Mesa region, formerly considered as Tertiary and later as Cretaceous (Laramie), must now be regarded as in part Cretaceous (Vermejo) and in part Tertiary (Raton).

Description of a new fossil fern of the genus *Gleichenia* from the Upper Cretaceous of Wyoming.

Proc. U. S. Nat. Mus., 45, No. 1904, June 21, 1913, pp. 555-558, pl. 44.

Discusses the occurrence of *Gleicheniaceae* in the Paleozoic and Mesozoic, and describes and figures the new species *Gleichenia pulchella* from the Cretaceous of Wyoming.

RUEDEMANN, RUDOLF. (See under John M. Clarke.)

SHUFFELDT, R. W. Contributions to avian paleontology.

Auk, 30, No. 1, Jan., 1913, pp. 29-39, pl. 3.

A study of the types of three species of fossil turkeys convinces the author that *Meleagris altus*—*M. superbus*; *M. antiquus* is probably not a true *Meleagris* and *M. celer* is not a member of this family. Some notes are added on the fossil birds of Oregon.

TRUE, FREDERICK W. A fossil toothed cetacean from California, representing a new genus and species.

Smithsonian Misc. Colls., 60, No. 11, Nov. 1, 1912, pp. 1-7, pls. 1, 2.

Describes *Hesperocetus californicus* from a mandible in the museum of the University of California.

WALCOTT, CHARLES D. Notes on fossils from limestone of Steeprock Lake, Ontario.

Geol. Surv. Canada, Memoir 28, 1912, pp. 16-23, pls. 1, 2.

Discusses the nature of organic remains, studied through the courtesy

WALCOTT, CHARLES D.—Continued.

of Dr. A. C. Lawson. Places these tentatively in the Lower Huronian, and under the new genus *Athoksania* describes and figures two new species, *A. lawsoni* and *A. irregularis*.

Cambrian Geology and Paleontology. II. No. 9.—New York Potsdam-Hoyt fauna.

Smithsonian Misc. Colls., 57, No. 9, Sept. 14, 1912, pp. 251-304, pls. 37-49.

Describes the varied fauna from the Upper Cambrian Potsdam sandstone and Hoyt limestone of New York State; proposes and defines the name "St. Croixan" in place of "Saratogan"; describes and figures representatives of 18 genera, including the new genus *Matherella*, and 4 new species as follows: *Hypolithellus papillatus*, *Ptychoparia matheri*, *Pagodus scelyi*, and *Dicelloccephalus tribulus*.

Cambrian Geology and Paleontology. II. No. 10.—Group terms for the Lower and Upper Cambrian series of formations.

Smithsonian Misc. Colls., 57, No. 10, Sept. 16, 1912, pp. 305-307.

Proposes term "Wauchoan" to replace "Georgian" as group name for formations in Lower Cambrian, and "St. Croixan" to replace "Saratogan" as applied to group formations in Upper Cambrian, as in previous paper.

Cambrian Brachiopoda.

Monogr. U. S. Geol. Surv., 51, 1912, pt. 1, pp. 1-872, figs. 1-76; pt. 2, pp. 1-363, pls. 1-104.

Gives results of an exhaustive study of the subject, based on personal investigation, with correlation of all important publications on the subject. Main purpose: To make the work of value to the student of Cambrian faunas and to the stratigraphic geologist. Describes 44 genera, 15 subgenera, 447 species, and 59 varieties of Cambrian Brachiopoda, and 3 genera, 1 subgenus, 42 species, and 1 variety of Ordovician Brachiopoda. Treats Brachiopoda historically, geologically, and zoologically. Includes bibliography, table of synonymic references, general geographic and stratigraphic distribution, evolution, classification, and descriptions and illustrations of genera and species in part 1. In part 2, nearly 400 pages of plate descriptions in addition to the 104 plates further illustrating the Brachiopoda.

WALCOTT, CHARLES D. The Monarch of the Canadian Rockies. The Robson Peak District of British Columbia and Alberta.

Nat. Geog. Mag., 24, No. 5, May, 1913, pp. 628-639, 11 text illustrations and a large panoramic frontispiece.

Describes and illustrates the Robson Peak District of British Columbia and Alberta, with a review of previous explorations, and an account and illustration of explorations and discoveries by the expedition of 1912, led by the author.

WICKHAM, H. F. Fossil Coleoptera from Florissant in the United States National Museum.

WICKHAM, H. F.—Continued.

Proc. U. S. Nat. Mus., 45, No. 1962, June 13, 1913, pp. 283-303, pls. 22-26.

Describes and figures the more important of the fossil Coleoptera from Florissant in the collection of the U. S. National Museum. Twenty new species are described, and the following new genera founded: *Aleocharopsis*, *Melolonthocaris*, and *Miotenosis*.

WILLIAMS, HENRY SHALER. Some new Mollusca from the Silurian formations of Washington County, Maine.

Proc. U. S. Nat. Mus., 42, No. 1908, July 3, 1912, pp. 381-398, pls. 49, 50.

Describes and figures 17 new species and varieties and founds the 2 new genera, *Eurymyella* and *Chopertia*.

MISCELLANEOUS.

CLARK, AUSTIN HOBART. A study of the salinity of the surface water in the North Pacific Ocean and in the adjacent enclosed seas.

Smithsonian Misc. Coll., 60, No. 13, Dec. 4, 1912, pp. 1-33.

SUMNER, FRANCIS B., RAYMOND C. OSBURN, and LEON J. COLE. A biological survey of the waters of Woods Hole and vicinity. Part I. Section I. Physical and Zoological. Part II. Section III. A Catalogue of the Marine Fauna.

Bull. Bur. Fisheries, 31, 1911 (June 3, 1912), pt. 1, pp. 3-442, charts 1-227; pt. 2, pp. 545-794.

Section I describes the results obtained by a systematic biological survey, from 1908 to 1909, of the waters of the region about Woods Hole, that is, from Newport eastward to Chat-

SUMNER, FRANCIS B., RAYMOND C. OSBURN, and LEON J. COLE—Continued.

ham and Sankaty Head, and including Buzzards Bay, Vineyard Sound, and Nantucket Sound, the ocean shores of Marthas Vineyard and Nantucket, and southward to the 20-fathom line. The results are included under geographical and physical conditions, synopsis of zoological data, the fauna considered by systematic groups, and theoretical considerations; followed by a bibliography, a list of dredging stations, and 227 charts showing distribution of species separately, range of temperatures, densities, and geographic and hydrographic features.

Section III is a census of the animals (invertebrate and vertebrate) found in the vicinity of Woods Hole, and based on the collecting done by the United States Fish Commission (now the Bureau of Fisheries) and on all published records known to the authors.

ANNUAL REPORT OF THE BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION

SHOWING THE OPERATIONS, EXPENDITURES
AND CONDITION OF THE INSTITUTION FOR
THE YEAR ENDING JUNE 30

1914

REPORT OF THE U. S. NATIONAL MUSEUM



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UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF THE SMITHSONIAN INSTITUTION,
Washington, D. C., November 28, 1914.

SIR: I have the honor to submit herewith a report upon the present condition of the United States National Museum and upon the work accomplished in its various departments during the fiscal year ending June 30, 1914.

Very respectfully,

RICHARD RATHBUN,

Assistant Secretary, in charge of the National Museum.

DR. CHARLES D. WALCOTT,
Secretary, Smithsonian Institution.

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REPORT ON THE PROGRESS AND CONDITION OF THE UNITED STATES NATIONAL MUSEUM FOR THE YEAR ENDING JUNE 30, 1914.

By RICHARD RATHBUN,
*Assistant Secretary of the Smithsonian Institution,
in charge of the U. S. National Museum.*

INCEPTION AND HISTORY.

The Congress of the United States in the act of August 10, 1846, founding the Smithsonian Institution recognized that an opportunity was afforded, in carrying out the large-minded design of Smithson, to provide for the custody of the museum of the Nation. To this new establishment was therefore intrusted the care of the national collections, a course that time has fully justified.

In the beginning the cost of maintaining the museum side of the Institution's work was wholly paid from the Smithsonian income; then for a time the Government bore a share, and during the past 39 years Congress has voted the entire funds for the expenses of the museum, thus furthering one of the primary means "for the increase and diffusion of knowledge among men" without encroaching upon the resources of the Institution.

The museum idea was inherent in the establishment of the Smithsonian Institution, which in its turn was based upon a 10 years' discussion in Congress and the advice of the most distinguished scientific men, educators, and intellectual leaders of the Nation of 70 years ago. It is interesting to note how broad and comprehensive were the views which actuated our lawmakers in determining the scope of the Museum, a fact especially remarkable when it is recalled that at that date no museum of considerable size existed in the United States, and the museums of England and of the continent of Europe were still to a large extent without a developed plan, although containing many rich collections.

The Congress which passed the act of foundation enumerated as within the scope of the Museum "all objects of art and of foreign and curious research and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United States," thus stamping the Museum at the very outset as one of the widest range and at the same time as the Museum of the United States. It was also fully appreciated that additions would be necessary to the collections then in existence, and provision was made for their increase by the exchange of duplicate specimens, by donations, and by other means.

If the wisdom of Congress in so fully providing for a museum in the Smithsonian law challenges attention, the interpretation put upon this law by the Board of Regents within less than six months from the passage of the act can not but command admiration. In the early part of September, 1846, the Regents took steps toward formulating a plan of operations. The report of the committee appointed for this purpose, submitted in December and January following, shows a thorough consideration of the subject in both the spirit and letter of the law. It would seem not out of place to cite here the first pronouncement of the board with reference to the character of the Museum:

"In obedience to the requirements of the charter,¹ which leaves little discretion in regard to the extent of accommodations to be provided, your committee recommend that there be included in the building a museum of liberal size, fitted up to receive the collections destined for the Institution. * * *

"As important as the cabinets of natural history by the charter required to be included in the Museum, your committee regard its ethnological portion, including all collections that may supply items in the physical history of our species, and illustrate the manners, customs, religions, and progressive advance of the various nations of the world; as, for example, collections of skulls, skeletons, portraits, dresses, implements, weapons, idols, antiquities, of the various races of man. * * * In this connexion your committee recommend the passage of resolutions asking the cooperation of certain public functionaries and of the public generally in furtherance of the above objects.

"Your committee are further of opinion that in the Museum, if the funds of the Institution permit, might judiciously be included various series of models illustrating the progress of some of the most useful inventions; such, for example, as the steam engine from its earliest and rudest form to its present most improved state; but this

¹ Since the Institution was not chartered in a legal sense, but established by Congress, the use of the word "charter" in this connection was not correct.

they propose only so far as it may not encroach on ground already covered by the numerous models in the Patent Office.

"Specimens of staple materials, of their gradual manufacture, and of the finished product of manufactures and the arts may also, your committee think, be usefully introduced. This would supply opportunity to examine samples of the best manufactured articles our country affords, and to judge her gradual progress in arts and manufactures. * * *

"The gallery of art, your committee think, should include both paintings and sculpture, as well as engravings and architectural designs; and it is desirable to have in connexion with it one or more studios in which young artists might copy without interruption, being admitted under such regulations as the board may prescribe. Your committee also think that, as the collection of paintings and sculpture will probably accumulate slowly, the room destined for a gallery of art might properly and usefully meanwhile be occupied during the sessions of Congress as an exhibition room for the works of artists generally; and the extent and general usefulness of such an exhibition might probably be increased if an arrangement could be effected with the Academy of Design, the Arts Union, the Artists' Fund Society, and other associations of similar character, so as to concentrate at the metropolis for a certain portion of each winter the best results of talent in the fine arts."

The important points in the foregoing report are (1) that it was the opinion of the Regents that a museum was requisite under the law, Congress having left no discretion in the matter; (2) that ethnology and anthropology, though not specially named, were yet as important subjects as natural history; (3) that the history of the progress of useful inventions and the collection of the raw materials and products of the manufactures and arts should also be provided for; (4) for the gallery of art the committee had models in existence, and they proposed, pending the gathering of art collections, which would of necessity be slow, to provide for loan exhibitions by cooperating with art academies and societies.

In the resolutions which were adopted upon the presentation of the report, a museum was mentioned as "one of the principal modes of executing the act and trust."¹ The work was to go forward as the

¹ *Resolved*, That it is the intention of the act of Congress establishing the Institution, and in accordance with the design of Mr. Smithson, as expressed in his will, that one of the principal modes of executing the act and the trust is the accumulation of collections of specimens and objects of natural history and of elegant art, and the gradual formation of a library of valuable works pertaining to all departments of human knowledge, to the end that a copious storehouse of materials of science, literature, and art may be provided which shall excite and diffuse the love of learning among men, and shall assist the original investigations and efforts of those who may devote themselves to the pursuit of any branch of knowledge.

funds permitted, and, as is well known, the maintenance of the Museum and the library was long ago assumed by Congress, the Institution taking upon itself only so much of the necessary responsibility for the administration of these and subsequent additions to its activities as would weld them into a compact whole, which together form a unique and notable agency for the increase and diffusion of knowledge, for the direction of research, for cooperation with departments of the Government and with universities and scientific societies in America, and likewise afford a definite correspondent to all scientific institutions and men abroad who seek interchange of views, or knowledge with men of science in the United States.

Since that early day the only material change in the scope of the Government Museum has been the addition of a department of American history, intended to illustrate by an appropriate assemblage of objects the lives of distinguished personages, important events, and the domestic life of the country from the colonial period to the present time.

The development of the Museum has been greatest in those subjects which the conditions of the past 64 years have made most fruitful—the natural history, geology, ethnology, and archeology of the United States, supplemented by many collections from other countries. The opportunities for acquisition in these directions have been mainly brought about through the activities of the scientific and economic surveys of the Government, many of which are the direct outgrowths of earlier explorations, stimulated or directed by the Smithsonian Institution. The Centennial Exhibition of 1876 afforded the first opportunity for establishing a department of the industrial arts on a creditable basis, and of this the fullest advantage was taken, though only a part of the collections then obtained could be accommodated in the space available. The department or gallery of the fine arts had made little progress, though not from lack of desire or appreciation, until within the past eight years, during which its interests have been markedly advanced.

With the completion of the new large granite structure on the Mall, the Museum has come virtually into possession of a group of three buildings, in which there is opportunity for a proper systematic arrangement of its vast and varied collections as well as a comprehensive public installation, and under these favorable conditions it may be considered to have entered upon an era of renewed prosperity and usefulness.

While it is the primary duty of a museum to preserve the objects confided to its care, as it is that of a library to preserve its books and manuscripts, yet the importance of public collections rests not upon the mere basis of custodianship, nor upon the number of specimens assembled and their money value, but upon the use to which

they are put. Judged by this standard, the National Museum may claim to have reached a high state of efficiency. From an educational point of view it is of great value to those persons who are so fortunate as to reside in Washington or who are able to visit the Nation's capital. In its well-designed cases, in which every detail of structure, appointment, and color is considered, a selection of representative objects is placed on view to the public, all being carefully labeled individually and in groups. The child as well as the adult has been provided for, and the kindergarten pupil and the high-school scholar can be seen here, supplementing their class-room games or studies. Under authority from Congress, the small colleges and higher grades of schools and academies throughout the land, especially in places where museums do not exist, are also being aided in their educational work by sets of duplicate specimens, selected and labeled to meet the needs of both teachers and pupils.

Nor has the elementary or even the higher education been by any means the sole gainer from the work of the Museum. To advance knowledge, to gradually extend the boundaries of learning, has been one of the great tasks to which the Museum, in consonance with the spirit of the Institution, has set itself from the first. Its staff, though chiefly engaged in the duties incident to the care, classification, and labeling of collections in order that they may be accessible to the public and to students, has yet in these operations made important discoveries in every department of the Museum's activities, which have in turn been communicated to other scholars through its numerous publications. But the collections have not been held for the study of the staff nor for the scientific advancement of those belonging to the establishment. Most freely have they been put at the disposal of investigators connected with other institutions, and, in fact, without such help the record of scientific progress based upon the material in the Museum would have been greatly curtailed. When it is possible to so arrange, the investigator comes to Washington; otherwise such collections as he needs are sent to him, whether he resides in this country or abroad. In this manner practically every prominent specialist throughout the world interested in the subjects here well represented has had some use of the collections, and thereby the National Museum has come to be recognized as a conspicuous factor in the advancement of knowledge wherever civilization has a foothold.

AMERICAN HISTORY AND THE ARTS AND INDUSTRIES.

From 1850 until 1881 the collections of the National Museum had only the Smithsonian building as their depository, and in this structure they increased so greatly that all of the available space became filled far beyond its capacity. In the year last named the adjoining brick building was completed and made available for the overflow and for the many large donations received at the Philadelphia Exhibition of 1876. The growth of the collections continued rapidly, however, and in not many years this additional space was also more than occupied, becoming, in fact, so overcrowded that an orderly arrangement ceased to be possible, and the exhibits of natural history, of anthropology, of the arts and industries and of the fine arts were more or less intermingled, unsystematically and with little regard to relationship. The large granite building finished in 1911, or 30 years later, brought the relief so much desired and permitted an organization which had long been looked forward to. This latest building was planned and erected with special reference to the needs of anthropology, biology and geology, composing what is known as the natural history branch of the Museum. The removal of the collections of these departments released about one-half of the exhibition space in the two older buildings, affording opportunity for renewing and increasing the art and industrial collections which at one time had been very prominent, for improving the methods for their administration and display, and for giving them a status of practical and educational usefulness.

It is not to be understood, however, that the arts and industries have remained unrepresented, as several of the branches established in 1881 have been continuously maintained, though under very unsatisfactory conditions, and they will require revision and amplification as well as a strengthening of the expert staff. Among these are such important topics as mechanical technology, transportation, firearms, medicine, the graphic arts, ceramics, glass and metal work, and also American history, which was originally classified in this department. The new subjects, or rather those to be reestablished and in which considerable advancement has even now been made, comprise mainly the great industries concerned with the utilization of mineral, vegetable and animal products, the most significant of all to the welfare of the human race, as they supply our food, our clothing and

our homes. The object of these collections and of the work that will be put upon them is both cultural and practical, and, as in the more progressive of the countries of the Old World, they are in large part designed to furnish very material aid toward the promotion and betterment of art and industrial pursuits in the United States.

For its public exhibitions the department has been allotted the entire floor and gallery space in the older Museum building and the three lower halls in the Smithsonian building. The latter will be used by the division of graphic arts, but owing to extensive repairs and alterations under way the installation of the materials of this division has necessarily been deferred and an account of them must be left for a future report. In this connection, therefore, attention can be directed only to the conditions in the Museum building and to the work there in progress. Before so doing, however, it is important to explain that ample as may seem the accommodations for expansion afforded by these two buildings the time is near when, in the ordinary course of events, these facilities will be entirely exhausted. But the extraordinary must also be looked for, and as instances may be cited the tender, since the close of the year, of a collection of extreme historical importance, valued at many thousands of dollars, which alone would fill one of the large halls, and there is also another collection consisting mainly of works of art of at least the same extent and of even greater value, bequeathed to the Museum, for which there will be no suitable place in either building. These conditions operate to the disadvantage of the Museum in two directions in respect to the arts and industries. Great gifts can not be solicited with the knowledge that no place exists for their accommodation, while, on the other hand, would-be benefactors are deterred from making presents for the same reason. The public has fully awakened to the possibilities of its Museum, and to the benefits which it might, and to a large extent already does, confer, and it is solely in the interest of the public welfare that the Museum seeks to increase its opportunities for doing good.

A detailed account of the older Museum building was published in the annual report for 1903. Its principal features with special reference to the interior are briefly as follows: The main part of the building is square, measuring 300 feet long on each side, and consists of a single story, varying greatly in height in its different sections. At each corner of the square is a relatively large pavilion and in the middle of each façade is a broad tower which project $12\frac{1}{2}$ feet from the main building line and increase the length of each frontage to 325 feet. Architecturally the building, which is of brick, consists of a central rotunda from which four naves extend in the direction of the four main points of the compass, in the form of a Greek cross. Following the outer walls and connecting the naves are eight

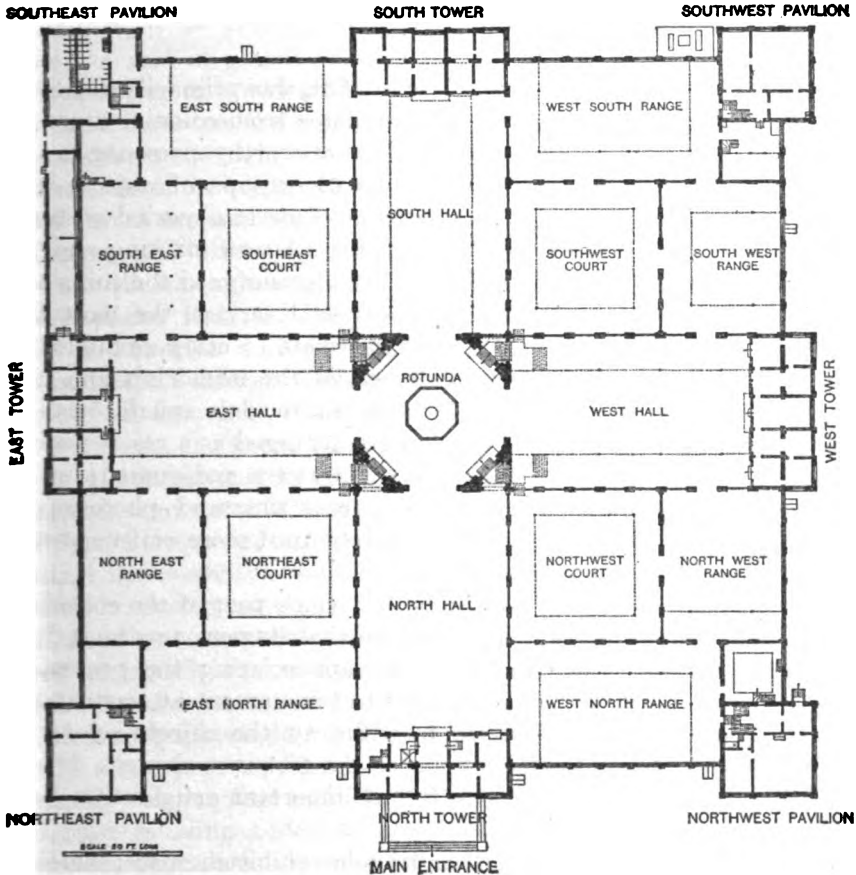
ranges, which, in conjunction with the former, inclose four covered courts. After the rotunda the naves have the greatest height, the courts coming next and the ranges last, in this respect. The ranges are lighted by large windows in the outer walls, as are also the outer ends of the naves. The naves otherwise and the rotunda and courts entirely receive their light from an abundance of clerestory windows. The illumination is therefore excellent, except for some interference on the floors through the introduction of galleries subsequent to the original construction.

This building stands southeast of the Smithsonian building, from which it is separated by an interspace of only about 50 feet, and its front or north face is about on the same line as the south face of the other. It covers a total ground area of 97,786 square feet, or about $2\frac{1}{4}$ acres. The towers and pavilions, which are three stories high and used for laboratories and offices, furnish 40,293 square feet of floor space; while the rotunda, naves, ranges, and courts, with such galleries as they contain, supply 103,195 square feet, or a little more than $2\frac{1}{2}$ acres, of space adapted to exhibition purposes. The towers were arranged so that each might furnish an entrance into the building, but only two have been so utilized—the north tower for the public and the east tower for official purposes.

The several subdivisions of the interior of the main part of the building are marked by rows of large brick piers, having a structural purpose in that they help to support the roofs, separated by wide openings terminating above in arched heads. As constructed, therefore, this interior was of the nature of a single room of exceptionally large dimensions. Exhibition cases placed between the piers have helped to fill in the interspaces, but with the object of securing better fire protection a large number of the openings have been built in with appropriate wall material, and this work is being further advanced from time to time.

The plan of the building is shown in the accompanying diagram, on which the subdivisions are designated in accordance with customary usage. The naves are called halls, but otherwise the architectural names are retained. The four halls—north, south, east and west—are much the largest of the subdivisions, and each measures about 102 feet 4 inches long by 62 feet 5 inches wide. The diameter of the rotunda corresponds approximately with this width. The northern and southern ranges are somewhat longer than the eastern and western, owing to interior extensions from the pavilions on the east and west sides of the building. The former measure about 89 feet 4 inches long and the latter about 63 feet 2 inches, the width of all averaging about 49 feet 9 inches. The courts average 63 feet square.

All of the subdivisions except the rotunda, the north hall, the east north, the north east, and the south east ranges are provided with galleries, the main entrance to which is from the rotunda. In the courts they occupy all four sides and are 10 feet 3 inches wide. Elsewhere they occur on three sides, except in the north west range, where only one side is so utilized. In the halls they range from



Floor and gallery plan. Older Museum Building.

13 feet 6 inches to 14 feet wide, and in the ranges are 12 feet wide. The south east range at the gallery height is entirely built over to form a complete second story. Although all of the galleries were planned for exhibition purpose and will eventually be so employed, a few have been and still are used as laboratories and for the storage of collections.

The floor plan, owing to the symmetry of design, makes every part of the exhibition space readily accessible to visitors, and communi-

cation from one part of the building to another is direct and unobstructed. All of the halls open broadly into the rotunda, and there is a continuous passage from range to range about the building. Only the courts are out of the beaten paths, and each has one or two entrances appropriately placed.

With this brief description of the building, we may proceed to an account of its present and prospective uses.

HISTORY.

The division of history, organized in 1881, was primarily designed to illustrate the history of the United States from colonial times by exhibiting such relics or memorials of noteworthy personages and events as could be brought together, with groups of objects representing different periods. Recently an American period costume collection has been added, which introduces a very striking and interesting feature; and to the division are also assigned the coins and medals and the paraphernalia of the postal service, the most important being the stamps, all of which relate to other countries as well as our own. While practically all of the memorials and costumes are displayed, the duplicate coins and medals and full sets of duplicates from the stamp collection are arranged as a reserve series for the use of students. Also filed in drawers and constituting a most valuable reference series are several thousand photographs and engravings of individuals who have gained more or less prominence in their respective pursuits.

Originally based mainly on loans, so large a part of the collection has become the property of the Museum that its permanency is fixed beyond question. Lenders, moreover, appreciating the protection assured their heirlooms, and actuated to some extent at least by patriotic motives, are not inclined to withdraw the objects belonging to them, and it is interesting to note the frequent changes during recent years from "loan" to "gift" of important articles that have been deposited.

Starting with the north hall as its sole exhibition space, which it shared with other subjects, the collections have grown so steadily that the division at present not only utilizes that entire hall, but has also gained possession of the west north and north west ranges and the floor space in the northwest court, with an aggregate of about 17,000 square feet of floor space.

MEMORIAL COLLECTIONS.

The general historical or memorial collections, constituting the most varied and popular section of the division and the most extensive as regards the area covered, occupy the north hall and west

north range, which are directly within the main entrance. The furnishings of the north hall consist of a continuous wall case on each side, 65 feet long, 8 feet high and 4 feet deep, and of many floor cases, numbering 56 at the close of last year. The type mainly used on the floor is the Gray pattern of the Kensington case, the remainder consisting of other patterns of the same and of various other types. These cases are arranged in two rows on either side of a wide passage leading from the entrance to the rotunda, but with some departure from the rule in places. In the west north range the cases are of several types, disposed in four rows—one on the north or window side and three on the south side of the principal passage, which extends from the main entrance to the northwest pavilion.

The collections contained in these two halls are especially rich in relics of American Army and Navy officers, including swords, uniforms, and other objects, which recall the names and services of their illustrious owners and illustrate the changes in fashion in these articles from the time of the Revolution to the present day. Next in importance of representation is probably the progress and attainments of science in this country, demonstrated by large numbers of medals and documents bestowed in acknowledgment of achievements, and personal articles of various kinds. Supplementing these is a large amount of material relating to the civil, domestic, economic, and art affairs of the country, interesting as typical of different periods and in many cases associated with some figure notable in connection with these phases of our history. Also included in the collection is an important series of historical maps, paintings and engravings, and many announcements of awards of honor and merit, commissions and diplomas.

In the arrangement of the exhibition it has not been possible to proceed on a thoroughly systematic basis. The limitations of space would alone prevent this, and the conditions accompanying loans generally require that each be displayed as a whole. Moreover, the collection is being added to so often and so extensively that each new acquisition would require an entire shifting of cases and the reinstallation of some of them, and even under the method followed this has to be done to a greater or less extent from time to time. With a sufficient amount of space and number of cases and the absence of any restrictions, a much better and more comprehensible installation could be made, and this desirable result, it is hoped, may some time be possible of attainment. The present basis of arrangement is mainly the individual collection, each series of objects relating to a particular person being, as far as possible, kept intact and the articles in each placed near together. With these conditions fulfilled, and in view of the limitations referred to, the order

is essentially chronological. The position of collections must, however, in many cases be determined by their size and their timely interest to the public, and some of them consist of a great diversity of material, representing considerable periods of time. In this connection more than a general account of the collections, with some references to their more important features, is impossible.

North hall.—The two large cases on the sides of this hall, heretofore occupied by the collection of musical instruments which has recently been removed, will be used for historical furniture, though there are many pieces installed in connection with individual exhibits where they will remain. Among the extensive material to be drawn upon for these cases are chairs, tables, and various other articles, and among the historic names represented are Lafayette, Thomas Jefferson, Brig. Gen. Rufus Putnam, Alexander Hamilton, Chief Justice John Marshall, Col. Peter Gansevoort, and Col. John Cropper of the Continental Army. It is also proposed to decorate the upper part of the cases with a series of historical paintings and engravings.

Suspended in the wall case on the right, awaiting accommodations by which a greater extent of its expanse may be displayed, is one of the most precious and valued of all the possessions of the Museum. This is "The Star-Spangled Banner" of Fort McHenry, the inspiration for Francis Scott Key's immortal verses, which, retained by Maj. George Armistead, its defender, has, through the generosity of his grandson, Mr. Eben Appleton, become the property of the Nation. An account of the steps recently taken to secure the perpetual preservation of this flag is given in another part of this report.

Taking up now the cases on the floor, one finds that the row on the extreme left is devoted mainly to the colonial period and the time of the American Revolution. Two cases are filled with colonial relics, including silver, glass, china, fabrics and articles of personal wear, many connected with prominent personages, deposited by the National Society of the Colonial Dames of America; and two others with similar objects of a somewhat later period, deposited by the National Society of the Daughters of the American Revolution. In the same series additional miscellaneous memorials of the Revolution, including a flag, a number of presentation and service swords, silverware and other objects, are likewise contained in two cases, in one of which is also installed a set of rare china purchased in 1790 by Dr. David Townsend, of Massachusetts, an original member of the Society of the Cincinnati, each piece bearing the insignia of the society, and the set being accompanied by Dr. Townsend's diploma of membership, signed by Washington as president of the society. Next comes a printing press that was used by Benjamin Franklin in 1725-1726,

when a printer in London, followed by a collection of special note, consisting of a number of military and civil costumes, swords, portraits and other relics of Brig. Gen. Peter Gansevoort, United States Army, relating to his career when, as a colonel in the Continental Army, he figured prominently in the campaigns against the British in the Colony of New York. Included in this exhibit are also memorials of Gen. Gansevoort's son, who fought in the War of 1812, and of his grandson, who attained the rank of brevet brigadier general of volunteers in the Union Army during the Civil War.

Models of five vessels connected with the discovery and early history of America are next in sequence. They represent a viking ship, such as that in which the Norsemen are believed to have visited this continent about 1000; the *Santa Maria*, flagship of Columbus; the *Susan Constant*, which brought the first permanent English colony to America; the *Mayflower* of the Pilgrims; and the United States frigate *Constitution*. The two remaining cases in this row are devoted, respectively, to the War of 1812 and the War with Mexico. In the first, among other articles, are a gold-mounted sword presented to Maj. Gen. Jacob Brown by the Legislature of New York, in recognition of his services during the battles of Chippewa and Bridgewater on July 5 and 25, 1814; a similar sword presented to Maj. Gen. Eleazer W. Ripley for his services during 1812-1814; a number of swords and pistols found on the battle field of New Orleans; and a silver service of five pieces given to Capt. James Lawrence, United States Navy, by the city of Philadelphia, in acknowledgment of his capture of the British brig *Peacock*. Most noteworthy in the second case are two gold-mounted swords, one set with jewels, presented to Maj. Gen. James Shields by the States of South Carolina and Illinois, respectively, in recognition of his services during the War with Mexico; swords of the same character presented to Brig. Gen. Gabriel R. Paul and Brig. Gen. George W. Morgan; a sword and silver pitcher presented to Maj. Gen. John B. Magruder; a gold medal awarded to Brig. Gen. William H. Browne by the city of New York; two United States volunteer regiment flags of the period and a Mexican flag captured during the war, besides a number of miscellaneous articles, including swords, silver-mounted pistols, and uniforms worn at that time by United States officers.

The adjoining row of cases, that facing the main thoroughfare on the left, contains relics of three classes. The first consists of objects of the nineteenth century, including a number of valuable jewels and other articles given to the United States in 1841 by the Imam of Muscat, and personal relics of various individuals, including Alexander Macomb Mason Bey and Mr. S. F. B. Morse. The second comprises memorials of prominent military and naval officers

of the United States, consisting mainly of jeweled, presentation and service swords, dress and service uniforms, etc. Among the Army officers represented are Maj. Gen. Alexander Macomb and Maj. Gen. Winfield Scott Hancock; among the Navy officers, Stephen Decatur, M. C. Perry, James Biddle, David D. Porter, David G. Farragut, Charles Wilkes, and John W. Philip. The third class comprehends a large and rich series of awards of merit and honor, including decorations, many of which are of great value both artistically and intrinsically. The important and varied collection bequeathed by Prof. Simon Newcomb, United States Navy, fills four cases; while the medals awarded to Commander Matthew Fontaine Maury, United States Navy, for his services to science and navigation, number 21. Also installed in this class are a gold snuffbox set with diamonds and a number of gold medals awarded to Joseph Francis in recognition of his services to humanity for his invention of the life-saving car; and many medals, decorations, and other forms of award conferred on American men of note, among whom may be mentioned Commodore John Rogers, Brig. Gen. M. C. Meigs, Alexander Macomb Mason, Hon. S. S. Cox, Prof. Alexander Dallas Bache, and Prof. Spencer F. Baird. A single case is occupied by the exceptionally large and artistic collection of gold and silver medals and other awards to Rear Admiral Robert E. Peary, United States Navy, in recognition of his polar explorations.

The first case from the entrance on the right of the main thoroughfare contains the few memorials of Lincoln possessed by the Museum, including the casts of his face and hands made by Leonard W. Volk, of Chicago, in 1860. In four adjoining cases is displayed the notable collection of relics of Gen. Ulysses S. Grant, which came mainly to the Museum in 1886 as a gift to the Government from Mrs. Grant and Mr. W. H. Vanderbilt. Of extreme value intrinsically, artistically, and for the wide range of countries represented, as it contains the many presents made to Gen. Grant during his world tour in 1877-1879, as well as at home, in recognition of his distinction as soldier and statesman, it is one of the largest and most important individual features of the division. Conspicuous among the articles are a large number of presentation and service swords, pieces of china, bronze, gold and silver ware, gold and silver medals, and other objects of art interest; several pieces of Chinese and Japanese bronze and porcelain, a set of modern Japanese gold and silver coins, and ancient gold medals, presented by the Emperor of Japan; and handsomely designed gold and silver caskets representing the freedom of several English cities. Associated with this collection is the series of beautiful and costly objects given to Mrs. Grant when abroad with her husband, and after her death donated in her name by her

children; while belonging with it are many documents in the form of Gen. Grant's Army commissions, honorary diplomas, addresses, etc., which are installed in cases more appropriate for them in the west north range. In a case near his father's are uniforms, swords, and other interesting articles of Maj. Gen. Frederick D. Grant, connected with his campaigns in Porto Rico and the Philippine Islands, followed by memorials of the same type relating to Gen. Sherman and Maj. Gen. Judson Kilpatrick. Other Civil War figures represented in the western section of the hall and also partly in the range are Maj. Gens. C. C. Washburn, George A. Custer, W. S. Harney and Thomas Swords; Brig. Gens. William B. Hazen, William Henry Browne, James B. McPherson, George W. Morgan, Gabriel R. Paul, Strong Vincent and John W. De Peyster; Flag Officer Andrew H. Foote; Col. E. E. Ellsworth and John Brown.

There are also many additional relics of the Civil War period, notable among which are a chair, secretary and table from the room in the McLean house at Appomattox, where the articles for the surrender of the Army of Virginia in 1865 were agreed upon by Gens. Grant and Lee, and a tree trunk severed by bullets at the battle of Spottsylvania Court House, Va., on May 12, 1864. The memorials of the Confederate States Army fill only a single case, as, unfortunately, it has been impossible to obtain a better representation.

At the end of the hall, adjoining the rotunda, is a large and valuable collection of memorials of Rear Admiral Winfield Scott Schley, installed in two cases and comprising uniforms, presentation and jeweled swords, gold and jeweled medals, a silver service and other objects, mainly gifts in recognition of achievements during his long service in the Navy, actively terminating with the War with Spain. Close by are two other cases devoted to miscellaneous relics of the Spanish War, including a number of captured Spanish flags, swords and guns. A large case near the middle of the hall is especially noteworthy as representing the personal side of a single family, the Bailey-Myers-Mason, for a period of about a century, its contents consisting of costumes, swords, silverware, porcelain, and many rich and jeweled objects of domestic interest. Adjoining are four exhibits illustrating the scientific work and inventive genius of Prof. Joseph Henry, Mr. S. F. B. Morse, Mr. Cyrus Field, and Dr. S. P. Langley.

In the rotunda are a number of Spanish guns captured in 1898, numerous relics from the wreck of the battleship *Maine*, and a bronze cannon and carriage brought to this country by Lafayette in 1777 and used by the allied French and Continental forces in the War of the American Revolution.

West north range.—On entering the range one comes immediately upon the memorials of Washington, which are installed in seven cases adjoining the passage on the left. Consisting chiefly of the collection purchased by the Government in 1878 from the heirs of Mrs. Lawrence Lewis, subsequent additions from other sources have increased the number of objects to about 400. While composed largely of articles of domestic and artistic interest from Mount Vernon, the collection also includes important relics of Gen. Washington's life in the field during the War of the American Revolution. Among the former are silver, china and glass ware, typical of the period they represent, chairs, tables and mirrors of antique design, a copy of Houdon's bust of Washington, miniature portraits of Gen. and Mrs. Washington by Trumbull, and several personal objects which had belonged to them and to Nelly Custis. Among the latter are the tents and camp chest with mess utensils used by Washington, and also the Continental uniform he wore when he resigned his commission as commander in chief before Congress at Annapolis, Md., December 23, 1783. In one of the cases of the series is a collection of Lowestoft china and cut glass used at Mount Vernon about the close of the eighteenth century and bequeathed by Mrs. Washington to her granddaughter, Eliza Parke Custis.

Arranged in four cases near by is a large collection of domestic objects, such as costumes, textiles, china, glass and miscellaneous articles, representing the Copp family of New England in the colonial and Revolutionary periods. Five cases at the inner end of the range contain medals, pieces of silver, a fine malachite case, handsomely bound volumes and pictures dealing with Russian history, art and other subjects, presented by Emperor Alexander II of Russia and various Russian societies and individuals to Gustavus Vasa Fox on the occasion of his visit to Russia in 1866, when, in appreciation of its friendly attitude toward this Government during the Civil War, he was sent by Congress as a special envoy to personally congratulate the Emperor on his escape from assassination early in the same year. The collection also includes a number of congratulatory letters and addresses of welcome received by Mr. Fox during this mission. Among the numerous other exhibits in the range are memorials of Dr. William T. G. Morton, who demonstrated the art of surgical anæsthesia; of Joseph Wharton, who was among the first to establish the manufacture of nickel in the United States; and of Gen. José Antonio Páez, the Venezuelan patriot and minister to the United States in 1860-61. Three cases contain miscellaneous relics of the early part of the nineteenth century, including jewelry, textiles, china, etc.; and in a single case is displayed a collection of swords illustrating the types of this weapon used in

the United States Army from the time of the Revolution to the period of the Civil War, supplemented by a number of English, French, and Spanish swords, some of the last named dating back to the sixteenth century.

In a series of cases adjoining the window side of the range are exhibited, among other articles, mainly documentary, the commissions of Gen. Grant, Gen. Sherman, Maj. Gen. Thomas Swords, and Brig. Gen. George W. Morgan; diplomas and other honors conferred on Dr. S. P. Langley, and medals and diplomas awarded Prof. George F. Barker, for their services to science; and a miscellaneous collection of historical documents, plans, and maps. Adjoining the opposite or south wall is a row of similar cases containing the David W. Cromwell collection of postage stamps, which is exceptionally large and valuable, and representative of foreign countries as well as our own. On the walls other than that occupied by the windows are hung paintings of historical personages, and engravings and other prints illustrating noted scenes and landmarks in United States history.

PERIOD COSTUMES.

There was opened to the public on February 1, 1914, a collection of feminine import, which is quite unique for this country in its largeness of scope and in part at least for its method of presentation. With few exceptions this assemblage is illustrative of the fashions of the women of the United States from colonial times, including all manner of accessories and embellishments, and the articles of their particular sphere in the home life.

The first suggestion was for such a presentation of changes in fashion as could be made by a display of costumes worn by the successive mistresses of the White House, each so draped as to bring out the full effect of the gown when upon the wearer. The task proved doubly difficult, first in securing the material desired and second in producing a lay figure or manikin sufficiently dignified and pleasing to be associated with such surroundings. A considerable delay, therefore, ensued, but 15 gowns, representing as many presidential administrations, have now been obtained, and a series of experiments has resulted in the production of a manikin which leaves nothing more to be desired in that respect. During the progress of this work, moreover, the scope of the collection was enlarged to include other costumes and other articles, installed in a more conventional way, as described below. While there is practically no limit to the extent to which such an exhibition could be carried, the restrictions in the matter of space make necessary a careful discrimination in determining which of the many offers of material should be accepted, the

intention being to round out the subject with as little duplication as possible.

The collection is, of course, confined to the period of civilization in this country. Back of it is the ethnology of the American Indian, but between is a considerable number of years which are not represented, since the earliest costume it contains dates no further back than the middle of the eighteenth century. It is hoped that this gap will not remain without at least some illustrations. The costumes that have been assembled do not include those of the lowly, but belong entirely to at least the well to do, and mainly to the wealthy and distinguished, the classes to which the term "fashion" seems solely to appertain. With these classes, therefore, have also originated the changes in fashion, which, with the growth of the collection, are discovered to be more distinctive, more progressively varying, and more instructive than had been anticipated. For the study of this, the historical, side of the subject of American costumes, the collection, small as it still is, furnishes excellent material, as it also does for the study of American history in general by its representation of so many persons of notable connection with the affairs of the country.

For the inception of the collection, for the plan of its composition, for the assembling of its innumerable parts, and for its installation acknowledgments are due to Mrs. Julian James, of Washington, who has had the constant hearty cooperation of Mrs. R. R. Hoes and the help and advice of many other ladies of the Capital City. Upon Mrs. James and Mrs. Hoes, however, has almost wholly devolved the work of bringing together the costumes and other articles, which include many contributions from their own stores of heirlooms, and of preparing and arranging them for exhibition. The task has been especially arduous, as the materials had to be sought in many places and were mainly acquired through their personal efforts. Their part, moreover, has been entirely a labor of love, and has been conducted with a zeal and devotion which could not but insure success. And so with inconsiderable expense to the Museum has been added a section of great importance, of extreme interest to the public, of high intrinsic value, attractive and pleasing, but at the same time classified and arranged in accordance with museum methods, and for a comparison with which one finds nothing in this country and little in Europe.

The space occupied by the period costume collection is the north west range, which is most easily reached from the main entrance by passing to the right through the smaller hall of history. There is also another opening from the west hall and communication with the northwest court. The range measures about 63 by 50 feet, and has a sloping ceiling which varies in height from 26 to 31 feet.

The direct lighting is wholly from the west, where the outer wall is pierced with five large windows, provided with heavy curtains to protect the delicately tinted fabrics against fading. The walls and ceiling are uniformly of an old ivory tint, and the only decoration on the former, hung high above the cases, is the celebrated painting by Henry Sandham, entitled "The March of Time," representing a review of the Grand Army of the Republic in Boston Common, in which the faces are mostly portraits of prominent officers and women of the Civil War.

The furnishings of the range are varied though not inharmonious. The White House costumes are in large rectangular cases, with ebonized frames and polished hardwood floors, which generally measure 5 by 8 feet square and 8 feet high. Each contains a single figure, except one in which two have been installed. The 14 cases now provided are in two rows, $8\frac{1}{2}$ feet apart, the intervening space serving as the main thoroughfare through the range from north to south. Filling each of the broad interspaces between the piers on the three inner walls, except at the three openings, is a standard alcove case, which in appearance and purpose is the equivalent of a wall case. In front of the piers, with one exception, are placed smaller cases, six of the single lay figure pattern and three of about the same height but somewhat wider. The entire space below the windows on the west wall is occupied by a single sloping table case with an upright back fitted with shelves. The remaining space, that between the above-mentioned case and the nearest row of White House figure cases, is used for a series of six American cases arranged crosswise. These consist each of two sections of the floor type of sloping top, placed back to back, with a small rectangular upright case between and above them.

Lay figures, as before explained, have been employed only for the White House costumes; and after several attempts to avoid the appearance of the commercial manikin so often seen in store windows, recourse was had with entire success to the methods employed in producing the ethnological groups in the Museum. This meant a greater expenditure of time and labor than had been intended and a considerable delay in beginning the installation, but the results have more than justified this course, the presentation of this part of the collection being exceedingly dignified and wholly commendable. The heads, shoulders, arms and hands—the only exposed parts—are in plaster, the remainder of the construction being of wood and metal. The work is sculptural, but the delicate ivory tint given the plaster removes all sense of coldness and produces a harmony with the drapery that results in a remarkably pleasing effectiveness. A portraiture of any of the faces has not been attempted;

all are alike and are copied from a classic statue. The coiffure, usually with its ornaments, if any are shown, is molded, and is based upon a picture of the person represented or upon the style of the time to which the costume belongs. The differences which these produce, together with changes in pose, all tend to obliterate the effect of uniformity in facial features, and give to each head the impression of separate design. Neck ornaments are equally in plaster, and the arms are molded from living models, including the gloves, where they are worn. The draping has been well and tastefully done and the effects are unusually realistic, most markedly so in certain of the figures where the conditions were most favorable. The plaster work has been executed by Mr. H. W. Hendley, formerly of the Museum staff, under the direction of Mr. W. H. Holmes, while the dressing of the figures has been done by Mrs. Julian James and Mrs. Hoes, or under their supervision. In addition to the figures each case also contains one or two pieces of furniture, such as tables and chairs, and one or more other small articles having some relation to the administration represented. These give a more finished appearance to the cases and add to the historical interest of the collection.

The 15 presidential administrations illustrated are as follows: George Washington, 1789-1797; John Adams, 1797-1801; James Madison, 1809-1817; James Monroe, 1817-1825; Andrew Jackson, 1829-1837; Martin Van Buren, 1837-1841; William Henry Harrison, 1841; John Tyler, 1841-1845; James K. Polk, 1845-1849; James Buchanan, 1857-1861; Ulysses S. Grant, 1869-1877; Rutherford B. Hayes, 1877-1881; Benjamin Harrison, 1889-1893; William McKinley, 1897-1901; William H. Taft, 1909-1913.

The first of these administrations is represented by Mrs. Martha Washington, who is seated in one of her own chairs, by the side of a Mount Vernon table, on which is a Washington silver platter containing a tea cup and saucer given her by the French officers, a decanter and glass, and a Lowestoft bowl. The gown which she wears is of silk rep, of the old-fashioned salmon pink color, and is made of many straight widths, pleated on a bodice slightly pointed front and back. The entire dress is hand painted in a brocade design, in imitation of purple ribbons artistically entwined and caught in loops, producing a repetition of larger and smaller rounded spaces, the former containing small nosegays, the latter, insects and other small animal forms, all done in their natural colors. There is a lace cap on the head and an embroidered linen shawl about the shoulders. The hands, in silk mitts, hold a workbag, on which is embroidered "Mrs. M. Washington" in gold, surrounded by a wreath of flowers in bright colors. While recognizing the futility of comparisons, this figure would seem to be the most realistic of the group, and, though

presenting the earliest of the wives of Presidents, also the one most readily identified, probably because of our long acquaintance with the portraiture of this first lady of the Republic, which has been successfully reproduced.

Mrs. John Adams, the wife of the second President, is shown in a dress of puritanical simplicity, made of plum-colored Chinese crêpe embroidered with silk, and having a straight full skirt and long puffed sleeves. A lace shawl, a fan, a pearl necklace, and yellow kid slippers complete the costume. The wife of James Madison, best known as Mrs. Dolly Madison, is very effectively presented in the dress used by Mr. E. F. Andrews for the portrait well known to Washingtonians. The costume belongs to the early Empire period. The short-waisted basque and the overskirt, which ends in a flowing train, are of light yellow satin brocaded with many bunches of silver wheat. The overskirt, edged with Valenciennes lace, is draped over a white satin underskirt embroidered in pink roses, blue morning-glories, and white cherry blossoms. The sleeves, of gauze, are short, and a large lace fichu is thrown over the shoulders. In the right hand is the traditional book, which in this instance consists of a copy of *Paradise Lost*, published in 1812.

Search for a dress of Mrs. James Monroe having proved fruitless, a gown of the period imported from France in 1824 for the first bride of the White House, Maria Hester Monroe, the youngest daughter of the President, has been substituted. This dress, fashioned in Empire style, is of pale blue silk, is made with the Watteau pleated back, and the basque, which laces in front, has a decidedly long-waisted effect. The sleeves, which are short, are of blue tulle and blue and yellow ribbon knots. The skirt is in two wide flounces and, together with the waist, is embroidered and scalloped with straw in a conventionalized bearded-grain pattern. But 16 years of age when married to Samuel Laurence Gouverneur, the bride holds in one hand a lace handkerchief and silver vinaigrette. She is standing by the side of a chair and table, brought from France in 1796 by James Monroe, on the latter of which is an old-fashioned mirror made from a fragment of larger glass, a relic of the burning of the White House in 1814, a superb ivory and silver fan, a silver pitcher and creamer, and a small cup decorated with an eagle surrounded by 13 stars, which is supposed to be the only piece of Monroe china now in existence.

Lacking material for the administration of John Quincy Adams, the three which succeeded his are represented as follows: Andrew Jackson by Mrs. Jackson's niece, Mrs. Andrew Jackson Donelson, who presided over the White House during his term of office, and whose costume consists of a bodice of old gold flowered brocade and

an overskirt of blonde lace over a yellow satin skirt. Martin Van Buren by his daughter-in-law, Mrs. Sarah Angelica Van Buren, wife of Abraham Van Buren, in a striking, almost regal, rich dark-blue velvet train dress, and wearing also a lace fichu. In her right hand is a handkerchief embroidered with her maiden name, "S. A. Singleton," and in her left hand she holds a fan bearing her monogram, "A. V. B." William Henry Harrison, during his very short term, by Mrs. Jane Irwin Findlay, wife of Gen. James Findlay and aunt of Mrs. Harrison, in a simple low-necked dress of a dark mole-colored velvet, with the very long and large puff sleeves of the period of 1841.

The first presidential bride, Mrs. Julia Gardiner Tyler, wife of John Tyler, is gowned in a dainty creation of cream-colored gauze, first worn at her presentation at the Court of Louis Philippe. The skirt is very full and in three flounces, each of which has three rows of silver tinsel and two of embroidery, the latter being of bright flowers presenting all the colors of the rainbow. At the waist line there is a belt of the same material. The sleeves are short and the neck is V-shape, leaving the throat exposed. Over the shoulders is a lace shawl. Mrs. James K. Polk is presented in a magnificent gown made by Worth for the Polk inaugural ball, a beautiful azure-tinted brocaded satin, into the fabric of which the Christmas flower, the Poinsettia, is woven in silver-grayish tints. It has a full straight skirt with front panel of plain satin of the same shade and tight pointed bodice, low neck, and full puffed quarter sleeves. The bodice and sleeves and the skirt are trimmed with blonde lace, and six large bows of ribbon also adorn the front of the latter.

Another bride of the series is Mrs. Harriet Lane Johnston, niece of President Buchanan and mistress of the White House during his administration. The figure is clad in the gown worn by Miss Lane at her wedding to Henry Elliot Johnston, a superb ivory moire antique silk, made with flowing skirt, the wedding veil being thrown gracefully over the shoulders. The skirt has the voluminous proportions of the period when hoops were worn, and the hem is tabbed. The bodice, which is laced in the back, has a straight low neck and very short sleeves. It is trimmed with lace and a folded band of white satin passes through loops entirely around the upper part. This figure has a particular interest to the Museum, as it was through the generous bequest of Mrs. Johnston that the National Gallery of Art secured the nucleus which has led to its active growth.

It was said by a contemporary writer that during the period of the Grant administration the dresses seen were magnificent beyond precedent. The dress by which Mrs. Ulysses S. Grant is represented would seem to confirm this opinion. It is a heavy rich silver brocade,

the material of which was made in China. The skirt is cut straight and slightly pleated. The waist, which is quite low in the neck, has very short sleeves and a postilion back. A point lace cape covers the shoulders. The dress of Mrs. Rutherford B. Hayes is the one in which she appears in the portrait by Daniel Huntington now in the White House, and was first worn at one of her public receptions. It is of garnet velvet. The bodice has silk panels, a postilion back, tight sleeves, and lace collar and cuffs. Passementerie and brocade panels hang on either hip, and the train is of silk trimmed with strips of velvet. Mrs. Benjamin Harrison is shown in a rich gown, a combination of yellow satin and magenta brocade, with a sweeping train. The bodice has a V-shape neck and elbow sleeves. The side front of the gown is a panel of yellow satin, embroidered with gold passementerie. A gold cord edges the bodice and falls down in front terminating in tassels.

The dress of Mrs. William McKinley is of cream satin, with a long, full train. The high-necked waist is decorated with pearl passementerie, and the sleeves are of the mousquetaire style. The front panel of the skirt is embroidered in pearls and brilliants, and bordered on each side by deep d'Alençon lace, the hem being slashed into lappets edged with tulle. The high laced boots are of the same material and are embroidered to match. This costume was worn by Mrs. McKinley at the inaugural ball of March 4, 1901. The most recent of the costumes is the inaugural gown of Mrs. William H. Taft, a splendid creation of chiffon, embroidered in white floss, rhinestones, and silver crystal beads. It is low cut, with short sleeves, and has a very long, full train.

For dresses other than those in the White House series, four of the alcove and three of the single lay figure cases are now being used. Earliest in date of the apparel here displayed is a quaint colonial gown which belonged to Mrs. Cornelius Wyncoop as early as 1760. Following is a dress worn by the wife of Capt. Miles King, of the Revolutionary Army and later mayor of Norfolk, at a ball given to Lafayette, at Norfolk, Va., and another beautiful silk brocade of the same period. Especially notable is a golden-yellow robe made about 1784 for Mrs. Eliza Lucas Pinckney, one of the most distinguished of South Carolina women, the wife of Colonial Chief Justice Charles Pinckney and the mother of Gen. Thomas Pinckney. It was she who introduced indigo culture into the State, and the material of this dress was the product of her own plantation, as she raised the silkworms and the silk was spun by her maids. The weaving of the beautiful brocade was, however, done in England, and there was enough material for three dresses, two of which were presented to notable personages of the mother country.

Next is the dress worn by Mrs. Richard Rush when presented at the Court of George III in 1817. It was her husband, then minister to Great Britain, who went to London in 1836 as special commissioner on behalf of the bequest of Smithson, which he brought back with him in gold sovereigns, and later he became a regent of the Smithsonian Institution. There is also another costume of the Rush family worn in 1817 and a mantilla of 1840. Among other gowns belonging to the last and the beginning of the present century are the wedding dress of the wife of Rear Admiral D. D. Porter, 1839; a dress of Miss Mary Catharine Bruyn, 1835-1840; the dress worn by Miss Helen Hovey at the ball given in Boston in 1860 to the Prince of Wales, with whom she danced; five beautiful gowns belonging to three generations of the Bailey-Myers-Mason family; a superb gown, a replica of one belonging to the Empress Josephine, worn by Mrs. Levi Z. Leiter at the Indian Durbar of 1903; two dresses of Mrs. Levi P. Morton and one of Mrs. John Hay; the dress worn by Mrs. Charles Warren Fairbanks, wife of the Vice President, at the inaugural ball on March 4, 1905; a coat and gown of cloth of gold which had belonged to Mrs. John R. McLean; two gowns of Mrs. George Dewey, one her wedding dress; a dress of Mrs. Henry Y. Satterlee, widow of Bishop Satterlee; and two costumes of the famous actress Charlotte Cushman, worn by her in her impersonation of Cardinal Wolsey and Catharine in Henry VIII.

In four of the single lay figure cases is displayed the attire of as many distinguished American men. One contains the uniform worn by Gen. Washington when, at Annapolis, Md., on December 23, 1783, he surrendered his commission as commander in chief of the Continental Army, and also one of his dress suits. In another is the stately coat worn by Gen. Thomas Pinckney, of South Carolina, when minister to the Court of St. James. In the third is the court dress of James Monroe worn during his second mission to France in 1803, together with a large number of other Monroe relics, including badges and ribbons of the French Revolution, two waistcoats, shoe and belt buckles, a medal, a spur, rapier, umbrella, razors and strop, and several letters, one of which announces his marriage. In the last is the uniform coat worn by Gen. Andrew Jackson at the battle of New Orleans, January 8, 1815, and his pistols and case.

Charming and dainty in their materials, their needlework, and their decoration are many baby dresses of the styles of 1800, 1817, 1825, 1849, 1852, and 1859, displayed in a special case, among them being some rather elaborate christening robes and caps, as well as other articles of infant apparel.

Filling three of the alcove cases is a valuable collection of Cashmere and embroidered China silk or India shawls, including a num-

ber of exceedingly choice examples. While partly composed of loans, the majority of the specimens are the property of the Museum, the entire contents of one of the cases having, in fact, been received by the Government in 1841 as a gift from the Imam of Muscat, Arabia, together with many other beautiful and costly presents. A fine Cashmere shawl which belonged to Mrs. John E. McElroy, sister of President Arthur, is exhibited in the Hayes case.

The remainder of the costume collection fills the six American cases and the sloping part of the long wall case below the windows with a very great variety of articles, in some respects no less interesting than those already reviewed. It comprises parts of costumes, accessories of apparel, and the myriad objects associated with the daily life of woman. These are mostly heirlooms, treasured for their associations, for their beauty and daintiness, or for their costly and exquisite craftsmanship. The arrangement, though mainly by family grouping, is artistic and tasteful, and the general effect is of elegance and refinement. Summarizing briefly, we find many lace and other articles pertaining to dress, including a beautiful piece of piña work; handkerchiefs of lace and fine linen; gloves and mitts, with their embroidered containers; calashes and bonnets; hairpins and superb tortoise-shell combs; fans of exquisite make and embellishment; ornamented housewives and workbags, with sewing and knitting materials; pincushions, aprons, slippers, buckles, and toilet articles; numerous small and dainty ornaments of the boudoir; calling card and snuff boxes, opera glasses, lorgnettes, umbrellas, parasols, etc. Most resplendent is the display of jewelry, from antique to modern make, of endless variety, and including much of exceptional richness in material and workmanship. In one of the American cases are dainty lots of exquisite needlework and other family relics, showing the great taste with which our ancestors provided articles for their personal use. In the long wall case is contained a collection of colonial costumes illustrating the type of clothing worn by men on ordinary and dress occasions from 1700 to 1800, formerly the property of the Smith family of the Colony of Maryland; relics of colonial and early nineteenth century times in Philadelphia; dresses and jewelry of an early period from Kingston, N. Y.; and laces and lace costumes, fans, China and India shawls, jewelry, etc., from several sources.

Installed in the upright part of the western wall case and in three adjacent alcove cases is the historical collection of American china, assembled by the late Rear Admiral F. W. Dickins, United States Navy, and deposited by Mrs. Dickins, which was fully described in a previous report. It is especially notable for its relation to important periods and for the number of White House pieces which it contains.

Although not a part of the costume collection, it supplements it in a commendable way and adds to the attractiveness of the room.

COINS, MEDALS AND POSTAL TOKENS.

The northwest court is assigned to these subjects and also to the assemblage of musical instruments, the latter displayed in the wall cases, on the tops of which a large number of plaster busts of historical personages have been arranged. From the entrance, which is on the west side, a broad passage leads eastward through the court, and is flanked in the middle by two large upright cases for the stamp collection. The remainder of the floor space, partly abutting on the passageway, is occupied by table cases of several patterns, in which the coins and medals are installed.

Coins and medals.—The coins and medals, aggregating over 6,000 specimens, exclusive of the many and varied examples of the latter in the memorial section and those in the reserve series, were installed during the year. They had previously been in storage, accessible only to students, and their preparation for this purpose involved considerable labor, since it was necessary to reclassify the entire collection, clean each individual piece, and select the best of them for exhibition. It was also required to fully describe the specimens in the card catalogue, which had not previously been practicable, and to prepare copy for the labels. Although the series is far from complete for any country, each nation is sufficiently well represented to indicate, in a general way at least, its numismatic history, and it is hoped that this public display will lead to the filling of many of the gaps. While no very rare pieces are to be found among the coins, the importance of this part of the collection resting upon its extent and comprehensiveness, the collection of historical medals is one of the best available to the public in this country, being probably surpassed only by those of the United States Mint at Philadelphia and the American Numismatic Society of New York. The exhibit is supplemented by 102 fine examples of small plaster bas-relief reproductions of ancient and modern works of art.

The installation occupies 27 flat-top cases, of which 8 are devoted to the United States and its possessions, 11 to European countries, and 8 to Asia and Africa. The series of United States coins begins with a number of originals and copies, showing the type of currency used in America during the colonial period. Massachusetts, the first Colony to strike its own coins, is represented by the two silver pieces known, respectively, as the "New England shilling" and the "Pine-tree shilling," both issued as early as 1652. Among other colonial tokens are the Maryland pennies of 1660 and several pieces of the Rosa Americana series made in England for colonial circulation dur-

ing the early part of the eighteenth century. Of the copper pieces of various designs issued by the individual States, and there passed as cents immediately after the Revolution, there are examples from Massachusetts, New Jersey, and Connecticut. Especially noteworthy is a copy of what is supposed to have been a pattern dollar struck in 1776, which bears on the obverse the inscription "Continental currency, 1776," and on the reverse the names of the thirteen Colonies on intertwined rings encircling the words "American Congress," "We are one." Many of the copper coins or tokens of this period have the head of Washington, with inscriptions relating to his career, and of this type the collection contains interesting examples. The colonial and Revolutionary series are followed by a nearly complete collection of copper and bronze pieces issued by the United States since the establishment of the mint in 1792, different kinds of the half-cent, cent, and 2-cent issues being shown. Among the nonofficial coins is displayed a fine series of the so-called "hard times tokens," which circulated largely during the Presidencies of Andrew Jackson and Martin Van Buren, 1833-1841. In the matter of silver and gold coins the exhibition is somewhat disappointing, but it contains one very rare specimen—the famous "Stella" or \$4 gold pattern piece of 1879. Terminating the United States series is a set of the somewhat crudely designed Hawaiian currency of 1883, consisting of four pieces—dime, quarter, half dollar, and dollar—and another of the far more artistic silver, nickel and bronze coins issued for use in the Philippine Islands, comprising the half-centavo, centavo, 5-centavo, 10-centavo, 20-centavo, half-peso and peso pieces.

The classification of the United States medals is under 12 heads, namely, (1) struck prior to the Revolution; (2) struck during the Revolution or shortly thereafter; (3) commemorating events of the Revolution but struck subsequently; (4) commemorating events during the quasi war with France and the War with Tripoli; (5) commemorating events during the War with Mexico, the Civil War and the Spanish-American War; (6) commemorating the various presidential administrations and for presentation to Indian chiefs in token of peace and friendship; (7) commemorating the services of individuals; (8) awarded by the Government in recognition of services in saving life; (9) issued by, or awarded to, well-known societies and institutions; (10) commemorating notable events from 1800 to 1900; (11) commemorating centennial and other celebrations; and (12) commemorating expositions and fairs. In each of these classes the arrangement is chronological except those relating to personal services, where it is alphabetical by the names of the recipients. The collection consists largely of bronze copies of gold medals which have

been presented to individuals for special services, and, representing many phases of United States history, it offers an excellent field for study.

The foreign coins and medals have been installed in geographical, alphabetical and chronological arrangement, the geographical being by continents in the following order, namely, Europe, Africa, Asia; and the alphabetical by countries in each of the continents, the colonies of each country, wherever situated, being associated with it.

The European collection begins with Austria, followed by Belgium, of which there are a number of interesting pieces relating to the stirring events of the Revolution of 1830. After Denmark comes the British Empire with an especially large representation. The coins of the Empire, including its possessions, fill a case, and succeeding them is an important series of English historical medals ranging from the sixteenth century to the present day. Especially noteworthy are the portrait medals of the sixteenth century and a handsome set of medals issued during the nineteenth century commemorating notable events in the history of the city of London. The coinage of France is poorly illustrated, but this is more than atoned for by the splendid series of French historical medals, the bulk of which belong to the Henry Adams and George Brown Goode collections, which compose, in fact, the greater portion of the foreign medal representation in the Museum, the former aggregating nearly 1,000 and the latter about 500 specimens. This series commences with comparatively recent issues commemorating the reigns of the French sovereigns from Pharamond, 420-428, to Napoleon III, 1851-1871, and is followed by miscellaneous medals relating to events from the reign of Louis XII, 1498-1515, to that of Louis XIII, 1610-1643. There is a nearly complete set of the medals struck during the reigns of Louis XIV, 1643-1715, and Louis XV, 1715-1774; and the thrilling period of the French Revolution from 1789 to 1799 is well represented by designs striking in character and import. The French medallic art of the early part of the nineteenth century is illustrated by a number of examples of fine medals struck during the reigns of Louis XVIII, Charles X, and Louis Philippe. Following these is a large number of portrait medals commemorating the careers of noted men of French history, statesmen, authors, and others.

Of Germany there is also an excellent presentation, beginning with the coins of the various independent States and continuing with those of the Empire founded in 1871, the arrangement of the medals being the same. Especially noteworthy is the series of commemorative coins issued by the sovereigns of Bavaria during the early part of the nineteenth century. The independent States and the Kingdom of Italy are similarly illustrated, and in connec-

tion with them is displayed a very large and fine set of papal medals, dating from 1192 to 1910. The coinage of the Netherlands, Norway, Poland, Portugal, Roumania and Russia follows, and of the coins and medals of Spain there is an exceptionally interesting series, including a large number of pieces struck for circulation in the Spanish-American countries. The European collection ends with some excellent examples of early and recent coins and medals of Sweden and Switzerland. Its greatest desideratum is of ancient Greek and Roman coins.

The Asiatic and African countries whose coinage is shown are China, Japan, Persia, Siam, Abyssinia, Algeria, Liberia, Morocco and Turkey. The Chinese representation is the largest, numbering over 2,000 pieces and covering the period from about 700 years B. C. to the present time. The bulk of this collection was a bequest from the late George B. Glover, and many modern copper pieces have been added by Mr. N. Gist Gee, of Soochow University, China. The Japanese series is also important; beginning with the sixteenth century, it is brought down to the latter part of the nineteenth century.

Postal tokens.—At the beginning of 1908 the subject of postage stamps was illustrated in the Museum by only a small miscellaneous collection of domestic and foreign issues numbering about 2,500 pieces, and it is interesting to note that the principal contributor had been Mrs. Spencer F. Baird. In the year named, however, through the munificence of Mr. David Cromwell, of New York, the Museum received an exceptionally fine series of about 20,000 specimens representing the United States and nearly all foreign countries. These stamps were almost without exception well preserved, uncanceled copies, which had been assembled by the collector with much care and at great pains, and were therefore especially suitable for public exhibition. Though lacking in many important particulars, this collection was installed as a unit in a series of cases designed for the display of manuscripts but well adapted to this purpose, which are located in the smaller hall of history, as already explained.

In 1912 the Museum obtained by transfer the more essential parts of the large exhibition of the Post Office Department, comprising as its most valuable and important feature the stamps, stamped envelopes, and postal cards of all the nations of the world, to the number of nearly 200,000, and since then there has been a constant accretion from the same source. The original collection consisted primarily of a large cabinet with sliding frames, in which the main series of stamps had been installed, including those printed for the United States by private firms from 1847, the date of the first Government issue, until 1894, when the work was taken up by the Bureau of Engraving and Printing, and the subsequent issues from this bureau;

the foreign stamps received through the International Bureau of the Universal Postal Union at Berne, Switzerland, and a number of early United States stamps specially purchased. Nearly all of these series, however, were incomplete. The remainder of the collection was composed of sheets of stamps, envelopes, and postal cards mounted on swinging screens for various American expositions; many separate sheets of stamps and individual specimens; and several albums of stamps and of die proofs of United States stamps.

The preliminary work of putting this collection in shape, consisting in the systematic arrangement of the material by countries and dates of issue, having been completed in the early part of last year, the problem of preparing an appropriate exhibition was then taken up. It was decided to limit the display in the beginning almost exclusively to stamps, and, drawing first upon the resources of the collection from the Post Office Department, to leave spaces during the mounting for the desiderata which would be supplied as opportunities offered.

There have been many methods of exhibiting postage stamps, but it is believed that the scheme here adopted is an improvement over any other, especially in the matter of details. The principle is the same as that followed by the British Museum and is exemplified in the former cabinet of the Post Office Department, namely, a series of vertical sliding frames in which the specimens are mounted. The cabinet that has been built and in which the installation is in progress, though already made accessible to the public, may be briefly described as follows: There are two cases, each 16 feet 2 inches long, 6 feet 7 inches high, and 2 feet 8½ inches deep, constructed each in two sections for convenience in moving. They are made of mahogany with simple trimmings on the outside, but of white pine in the interior except as otherwise stated, and are placed facing each other on either side of the main passageway in the northwest court. The lower part of the cases is arranged for storage and provided with doors. The upper part, measuring 3 feet 2¼ inches from a counter shelf to the top of the cornice, contains the sliding frames, of which there are 148 in each case, or 296 in all, a number that may of course be at any time increased by adding to the case length.

The individual frames, made of cherry, measure 31½ inches high by 29¼ inches deep on the outside, and 27¾ by 21¾ inches in the opening. The thickness of the frames is 1½ inches, and when fully drawn out they are exposed to a depth of 23¾ inches, with an extension into the case of 6¼ inches, which provides the necessary leverage. Both sides are used and are glazed with English negative glass. The frames slide on cherry strips and the upper and lower rails of the former are grooved to within an inch of the front. In the lower groove are mortised four brass trunk rollers projecting one-eighth

inch to raise the frame above the strips, but the upper groove contains only one such roller, placed about 1 inch from the back of the frame to prevent friction as the frame is started. On the front edge of each frame is a bronze-finished bar drawer pull, a label holder, and a numbered disk. The frames are doubly secured in the case by a hinged cornice at the top and a wooden flap at the bottom, which are fastened by locks at the ends. They are released for inspection by unlocking the flap, being stopped at the proper place by a square strip of wood attached at the top, and may be wholly removed by also throwing the cornice back on top of the case. Still other attachments give greater refinement to the mechanism of the case in several ways.

Summarizing the principal merits of these cases, especially with reference to their use by the public, it may be said that the frames run so smoothly that they are instinctively pushed back into place, which is an important matter as operating against an unlimited exposure of the stamps and their consequent more rapid fading; while, furthermore, the frames are all in a single row and center at a height of about 4 feet 10 inches above the floor, which places each mounting easily within the range of vision of the ordinary standing visitor.

The stamps are mounted on quadrillé paper, which is supplemented in each face of the frames with a mat having four quadrangular openings, the stamps being appropriately grouped for this arrangement, which greatly adds to the appearance of the installation. Between the two mountings is a sheet of one-fourth inch compressed filler board. The labeling of the individual stamps has gone forward with their mounting and is done directly on the quadrillé sheets by means of a typewriter having gothic type. The results are very satisfactory in effect and much more durable than by attaching the many thousands of separate printed labels that would otherwise have been required. There remain to be added the general printed labels, one on each frame face giving the name of the country represented, and one on the front edge of each frame indicating the scheme of arrangement.

The installation of the collection, instead of according with the usual stereotyped alphabetical arrangement throughout, agrees practically with that of the coins and medals, and therefore begins with the United States, followed by the foreign nations in alphabetical order, the stamps of the colonies being grouped together geographically under each respective mother country. It is ultimately proposed to add an alphabetical and numbered list of all the countries and colonies represented, by means of which any particular set of stamps may be quickly located in the cases.

The total capacity of the 296 frames in the present cabinet is about 75,000 stamps. Approximately 20,000 had been mounted by the close

of the year, and labels had been prepared for about 30,000 more. As regards the material on hand the work had been somewhat more than half completed, and the alphabetical arrangement of the stamps by countries had progressed to the letter N. Spaces have been reserved for all of the primary varieties lacking, which it is expected to procure from time to time. The collection is, therefore, by no means a complete unit, but to be considered as the nucleus of a greater and more perfect representation of the stamps of the world to be gradually rounded out. As at present constituted it is most important on account of its size and wide representation, as well as for the period covered, commencing about the middle of the nineteenth century. It lacks especially the rare specimens of collectors and common varieties of certain periods, particularly of foreign issues. In general the mounting is of single stamps of each issue, but when necessary to serve a particular purpose they may be mounted in pairs, strips, blocks, or sheets. A selected series of the stamped envelopes of the United States follows the stamps of that country, but otherwise no provision has yet been made for the exhibition of postal cards and envelopes. In addition to the exhibition series which is expected to be the most complete, a reserve series will also be maintained for the use of special students of the subject.

The collection of United States stamps from the Post Office Department is an especially valuable one, all of the regular Government issues during the nineteenth century being represented as to types except the 1, 5, and 12-cent stamps of August, 1861, the other desiderata consisting in the lack of a number of scarce shades and special printings. The issues of the present century for the United States, the Philippine Islands, and the Canal Zone lack only a few shades which are not rare and can readily be secured. The representation of foreign stamps, however, is far less complete, and includes not a single one of the many great rarities of the nineteenth century. Though numerous gaps occur in the series of the twentieth century, they can mostly be filled without trouble and through the medium of exchange.

In the United States series, the installation of which has been completed, occur the following rare stamps, mainly unused copies and all in fine condition, namely, the 1-cent (type 1), 5-cent in dark brown and red brown and 24-cent of the issue of 1851; the 5-cent (type 1), in brick red and red brown, of the issue of 1857; the 3-cent rose, 3-cent carmine, 10 and 24-cent, and the 90-cent imperforate of the issue of August, 1861; the 3-cent scarlet, 5-cent buff, 5-cent olive buff, and 24-cent steel blue of the issue of 1862-1866; the 15 and 30-cent of the issue of 1869, with inverted medallions, the latter being one of the three great rarities in the issues of this Government; and a 12-cent, grilled, of the issue of 1870. The set of reprints of vari-

ous issues made by the Government in 1875 for the Centennial Exhibition of 1876 is complete, with the exception of the 1, 3, 6, and 12-cent of 1871 and the 2 and 5-cent of 1875. The collection also contains the 2, 7, 12, and 24-cent stamps, special printing of 1880; the 2 and 4-cent, special printing of 1883; the complete issue of 1890, 1 to 90 cents, in imperforate blocks of four; a complete sheet of the 2-cent Columbian issue, 1893, imperforate, signed and attested by J. Macdonough, president of the American Bank Note Co., and A. D. Hazen, Third Assistant Postmaster General, as the first Columbian stamps printed; the 6 and 8-cent stamps of the issue of 1895 printed in error on revenue paper; the 1, 2, and 4-cent inverted medallions of the issue of 1901, the 2-cent being the greatest rarity in the United States series of this century; a complete set, 1 to 15 cents, of the issue of 1908 on bluish rag paper; a complete set of the postage due, special printing of 1880, except the 1-cent denomination; a complete set of the issue of 1893, special printing, imperforate blocks of four; a copy of the \$5 stamp of the State Department; a set of newspaper stamps, 2 to 96 cents, special printing of 1875; a complete set, 1 to 60 cents, in imperforate blocks of four, of the special printing of 1893; and a complete set of the issue of 1894, bureau printing of the American Bank Note design, 1 cent to \$6.

The Museum has been fortunate in securing for the classification and installation of its stamp collection the services of the experienced philatelist, Mr. Joseph D. Leavy, to whom credit is due for its present excellent condition.

MECHANICAL TECHNOLOGY.

In 1885 a section of steam transportation was established as a branch of the department of arts and industries. The title was soon changed to "transportation" and subsequently to "transportation and engineering," the aim of the section being, it was stated, to present an object lesson illustrating the history of devices to promote travel and commerce and to convey intelligence. As early as 1888, appliances, such as the stationary engine, etc., for generating power for manufacturing and for producing heat and light had also been included, and other subjects were soon added, comprising naval architecture, previously organized as a separate section, airships, bicycles, automobiles, electrical devices for all purposes, measuring devices, small firearms, and various other inventions.

In 1895 the title became "technological collections," and the curator was also placed in charge of the collections belonging to certain other sections which had recently become disorganized through the lack of space and of means for their maintenance. Among these were textiles, foods, and animal products, with which, for obvious

reasons, nothing could be done at that time, and it is only recently that these subjects have been revived in accordance with the original plan, as explained elsewhere on these pages. On the reorganization of the Museum classification in 1897 this branch was made a division entitled "technology (mechanical phases)," which was altered to "technology" in 1904 and to "mechanical technology" in 1912.

While the collections in this division had become extensive and diversified previous to 1900 and included most of the bulky objects now exhibited, their growth during the comparatively few years of this century has been unusually rapid, and the acquisitions comprise large series of exceptionally important objects. The restrictions as to space, however, prevent the seeking or acceptance of nearly as much additional material as is required to elucidate the several subjects here combined in a wholly satisfactory manner.

The primary purpose of the division is to illustrate the history of the beginnings and development of certain of the arts and industries, hereafter referred to, by the display of extensive series of original specimens and models. Each series, where the material is available, begins with the most primitive devices employed and ascends by successive steps to the most perfect modern appliances. As new advances are made and higher types of mechanism are devised and brought into use, additions accrue to the collections and take their places in the ever-expanding historical presentation. Aside from the extended exhibits illustrative of the several more important subjects, the collections contain numerous somewhat isolated examples of exceptional interest to the student of material progress. America may well be proud of the record here made of the achievements of her citizens. Within the period almost of a lifetime the industrial processes of the world have been revolutionized by the steam engine and the dynamo; the telegraph, telephone, and aeroplane; and the names associated with these epoch-making inventions are already, without the intervention of learned academies, inscribed with the immortals. At the present time the collections occupy four halls and portions of two others. They may be briefly described as follows:

The east hall is richest in these exhibits. Here are assembled large series of the original machines, instruments, devices, and apparatus, with models of others in great numbers, relating to the use of steam and electricity as motive powers and their application in the arts and industries, besides many other groups of objects of first importance in the various fields of technological activity. It is difficult to say which of these numerous series is of greatest interest, and the visitor turns from one to another fairly dazed by the diversity and intricacy of the mechanisms and by contemplation of the mysterious and powerful agencies invoked and controlled by their use.

Exhibits illustrating steam railway transportation and other uses of steam power occupy the northeast section of this hall. In prominent positions on the floor are two full-sized locomotives of the earliest types—the “John Bull,” which is the oldest complete locomotive in America, built in England in 1831 and run on the Camden & Amboy Railroad from 1831 to 1868, and the “Stourbridge Lion,” built in England in 1838. In the adjoining wall case are various railway appliances and a large number of models of engines and coaches, extending back to the first inception of the employment of steam as a motor power, many of the engines and coaches being of quaint design and the latter showing a gradual departure from the stage coach which had served as a pattern. Here also are displayed restorations of Hero’s rotary steam engine of 150 B. C.; the Newton locomotive of 1680, which was propelled by a jet of steam projected backward against the air; Nordelle’s engine of 1784, designed to test the action of high-pressure steam in propelling vehicles; Trevithick’s locomotive of 1804; and many others connecting with the great traction engines of recent years. In the same section appear models of engines designed to utilize compressed air and gas, and others illustrating the carrying arts, showing man and beast as burden bearers, and the strange vehicles of all times and peoples.

Most noteworthy in the northern part of the hall is the large and unique exhibition of telephone devices, including both originals and models, the former in many instances contributed by the inventors, the latter to a great extent received from the United States Patent Office. Six upright cases contain an extensive collection of original apparatus illustrating the development of the speaking telephone invented by Dr. Alexander Graham Bell, and first put into operation in 1875, when its practicability was fully demonstrated. The earlier instruments were publicly shown at the Centennial Exhibition, in Philadelphia, on June 25, 1876, when they were tested by Lord Kelvin, Emperor Dom Pedro, of Brazil, and other distinguished persons. It was on that occasion that Lord Kelvin, after listening to the insignificant-looking toy, exclaimed, “My God! it does speak.” Examples of the centennial telephones and several large series of later ones, including various types of magneto and battery telephones, with many pieces of apparatus used by Dr. Bell in his researches, are included in the installation, as are also a set of hand telephones, fitted with ivory cases, made in 1878 for exhibition to Queen Victoria, and the first desk telephone set, constructed in 1877, consisting of two wooden hand telephones attached to a wooden base, which is fitted with suitable connecting screws and flexible cords. Other apparatus devised by Dr. Bell for various purposes are placed next to the telephone exhibits. They

consist of his photophone, induction balance apparatus, multiple telegraph apparatus, etc.

Near by is the experimental telephone apparatus made and used by Mr. Emile Berliner, whose invention of the battery transmitter antedated that of Thomas A. Edison, and also various telephone devices demonstrating the work of Edison, Elisha Gray, and others. Of much historical interest is the make-and-break telephone, which transmitted sounds but not articulate speech, devised by Philip Reis, of Frankfort, Germany, in 1860.

At the western end of the hall are the exhibits illustrating the recording and reproducing of sound. The phonautograph, devised by Leon Scott in 1857, occupies a special case at the entrance. It was made by Rudolph Koenig, of Paris, and obtained for the Smithsonian Institution by Prof. Joseph Henry in 1866. In this instrument the record of speech is traced on a carbon-coated cylinder by a light stylus attached to a thin membrane, which is set in vibration by the sound of the voice. The cylinder is rotated by hand. The record made by this process can not be reproduced, but was employed for studying sound waves. This machine is the first in which the vibrating diaphragm and recording stylus were used, and these devices form one of the principal features of the talking machines of later invention.

Following the phonautograph is the Edison phonograph, the first talking machine operated. It was brought out in 1878, and in the same year was exhibited before President Hayes at the White House and before the National Academy of Sciences at the Smithsonian Institution. In this instrument the sound record is embossed on a sheet of tin foil, wrapped around a cylinder, by a metal stylus attached to a vibrating diaphragm. The spoken words are reproduced by revolving the cylinder while the stylus travels over the impressions, and this can be repeated many times. Closely associated are later developments of the phonograph, represented in a series of Edison instruments in which the records are made on wax cylinders by a steel stylus, and by inventions of Dr. Alexander Graham Bell and Mr. Sumner Tainter, by which the record on the wax cylinder is carved out by a stylus terminating in a cutting point.

Another group of important original apparatus illustrates the talking machine called the gramophone, devised by Mr. Emile Berliner, first introduced in 1887, and publicly demonstrated the following year before the Franklin Institute, in Philadelphia. In the gramophone the sound vibrations are recorded in a delicate film of wax or fatty substance spread on the surface of a flat zinc disk, and by means of chromic acid the lines traced by the stylus are etched in the zinc to an even depth. From this record is then made a reverse electrotpe matrix which serves for the production of a large num-

ber of copies of the record in the form of India-rubber plates. The Franklin Institute machine, a collection of Mr. Berliner's early experimental apparatus, and specimens showing the various steps in the manufacture of the records form part of the exhibit. The gramophone was the forerunner of the Victor talking machines, good examples of which, as also many of the latest Edison machines, are likewise displayed.

The Moses G. Farmer series of electrical apparatus, consisting largely of models from the United States Patent Office, is of much interest to the student of this subject. The earliest specimen, 1850, is the model of an electrical plant with wind vanes designed to use wind power in charging electric batteries for the operation of incandescent electric lights. There are also scores of other devices devoted to various purposes, extending down to 1882. In another case in this section are several original telegraph machines, including a duplex telegraphic apparatus and an electromagnetic fire-alarm device of 1859.

In a wall case at the northwest corner of the hall is an exhibit of electrical lighting apparatus, representing many inventions and showing the wide interest taken in this branch. Among the names associated with the collection are Charles F. Brush; Hiram S. Maxim; Elihu Thomson; Matthias Day; William Wallace; Barton B. Ward; Henry Wilde; Nathaniel S. Keith; C. J. Van Depoele; Edward Weston; E. J. Houston; N. E. Reynier; Samuel Gardiner, jr.; Collier & Baker; A. P. Berlioz; Paul Jablochhoff; and L. R. Longworth. On the upper shelf of this case are numerous models of miscellaneous appliances, such as automatic grain weighers, steel-yard balances, dredging machines, steam governors, pumping engines, rotary machines, and automatic cut-off devices for steam engines.

Displayed in the southwest section are printing machines from the time of the Franklin press to the marvelous Hoe power press of today; typewriting machines, beginning with Thurber's very simple contrivance and extending over a period of 70 years to the present time; astronomical instruments, microscopes, surveying and engineering instruments and appliances, including theodolites, sextants, compasses, zenith sectors, quadrants and barometers, and very specially a case devoted to a remarkable series of Japanese surveying and measuring instruments; calculating machines of several types, the Whitney and other cotton gins, turning lathes and wood-pulp machines, besides electrical apparatus in overflow from other sections of the hall.

In the southeast section of the hall are installed the main part of the important exhibits relating to the electric telegraph, including the dynamos and other appliances. The electromagnetic telegraph system, invented and put in operation by S. F. B. Morse, provided

the first successful method of transmitting messages by electricity for commercial purposes, and it is still universally employed throughout the world. The beginning and development of the system is well represented by many pieces of original apparatus, from the crudest to the most perfect forms. Among these are the first recording machine, made by Mr. Morse with his own hands in 1837, and operated in the same year; and a facsimile of the recording apparatus used on the line built between Baltimore and Washington under the auspices of the United States Government, and opened for business on May 24, 1844. Arranged in historical order is a large series of telegraph transmitting keys, relays, sounders, recording instruments, specimens of line wire, insulators, batteries, and other material used in the construction and operation of telegraph lines. Especially noteworthy are a number of early pocket telegraph instruments for the use of operators in establishing temporary connection with lines in the Army and along public roads, and a small galvanometer made by Henley, in London, presented by Mr. Morse to Mr. Henry A. Reed, of Poughkeepsie, N. Y., and used by him for testing telegraph lines in 1855. There are also several original communications recorded by the Morse instruments, one at a private exhibition given in New York City in 1838, and another transmitted from Baltimore to Washington in 1844.

Among the models received from the Patent Office in 1908 are representations of the telegraph devices of Ezra Cornell, 1845; Tal. P. Shaffner, 1866; Royal E. House, 1852; D. E. Hughes, 1856; and Charles Wheatstone, 1874. A similar series illustrates the development of telegraph repeaters through the inventions of Charles S. Bulkley, 1850; J. E. Smith, and Farmer and Woodman, 1857; J. J. Clark, 1860; G. B. Hicks, 1862; W. H. Hamilton, 1865; J. H. Bunnell and W. G. Brownson, 1868; Elisha Gray, 1871; L. T. Lindsey, 1873; Charles E. Scribner, 1876; Rogers and Crane, 1880; and the Milliken automatic repeater extensively used on telegraph lines in the United States from 1862 to 1895. In the collection deposited by Dr. Alexander Graham Bell is an important group of apparatus devised by him in connection with his work on the telegraph which preceded his invention of the telephone. It embraces many devices which have been utilized in telegraphy. An interesting specimen, of which no duplicate is known to exist, is the Bain telegraph recorder employed on telegraph lines in New England from about 1850 to 1866, when it was superseded by the Morse system. By this machine the dots and dashes of the Bain alphabet were marked on a circular sheet of paper, moistened with a solution of potassium ferrocyanide, by the chemical action of the electric current.

The south east range, of which only a part is now available, contains a few examples relating to the history of the automobile as well

as a number of other objects. Here are shown the original Haynes gasoline automobile of 1893, a Haynes six-cylinder automobile engine of the present time, the Balzer gasoline automobile of 1894, the first steam-steering apparatus used on a vessel, 1858, invented by Frederick E. Sickles, and the Horton automatic basket-making machine, 1894.

The north east range is wholly occupied by a great collection of originals and models illustrative of water transportation and naval architecture. A large wall case along the west side of the range is filled with models exemplifying the development of the water craft of the United States from the simplest raft to the full-rigged ship, among which the fishing vessels of New England are especially prominent, while a smaller case on the east side contains a general presentation of the water craft of the world. Centrally placed is a special group of models representing the early American steamboats of Fulton, Fitch, and Rumsey, the steamship *Savannah*, and other equally interesting examples of steam-propelled boats or the essential portions of them. Also in floor cases are arranged 10 models of ships of the United States Navy, lent by the Navy Department, and elsewhere installed is a splendid model of the cruiser *Pittsburgh*. Likewise exhibited in ~~the~~ range is the original metal life-saving car invented by Joseph Francis in 1850. Among full-sized craft, suspended from the ceiling, are good examples of Alaskan skin boats—umiaks and kaiaks—birch-bark canoes, balsas, and dugouts from many parts of the world. Especially notable is an immense canoe of the Haida Indians of Queen Charlotte Island, the most imposing of the aboriginal American boats, which is carved from a single giant cedar trunk and embellished with symbolic designs in color. It was propelled by a crew of from 20 to 30 oarsmen.

The northeast court is devoted exclusively to the display of modern arms and armor, the exhibit of small arms being regarded as the most complete yet brought together in the United States. The collection of projectile weapons is introduced by a few examples of very primitive devices, the spear, the bow and arrow, the crossbow, and the blowgun. These are followed by the firearms, beginning with the earliest types—the matchlock, the flintlock, the percussion cap, and the various muzzle-loading forms, and continuing on through a wonderful series to the breech-loading, repeating, revolving mechanisms of to-day. The exhibition is greatly enriched by a magnificent collection of small arms, American and foreign, deposited by the United States Cartridge Co., which is very comprehensive and rich in rare pieces. The representation of our national arms is most complete, and we are able to trace their development from the colonial or pioneer period, with its so-called Indian guns, up through the Revolutionary period, the War of 1812, the Mexican

War, the Civil War, and the Spanish-American War, to the present time. In this series the pistols and revolvers are also included, and scarcely less interesting are the hunting, sporting, target, and telescope weapons shown in separate cases. Among the hand weapons displayed are the knife, dagger, saber, sword, battle-ax, foils, and shields. The Gatling gun with a few other examples of larger ordnance and illustrations of military equipment are likewise contained in the exhibition.

In the west hall will be found a few of the exhibits belonging to this division, namely, the time-keeping collection, which consists of hourglasses, sundials, time candles and lamps, a large series of watches and watch movements, and clocks, including a water clock; the Ramsden dividing machine and slides, 1775, for equally dividing the circular scales of astronomical and surveying instruments; one of the original Howe pin-making machines, in use from 1835 to 1875; many models of various agricultural implements, and other minor appliances.

The subject of flying machines, which holds to-day a transcendent place in public and scientific interest, is of particular moment to the Museum, in view of the extended and profound studies on aerodynamics by the late secretary of the Smithsonian Institution, Dr. S. P. Langley, and of the fact that he produced the first heavier-than-air machines, both in models and of full size, with which actual flights have been successfully made. The collection in this branch, though small, is so diversified in character and in the size of objects, that it has been necessary to find accommodations for it in several different places. A full-sized Wright biplane is suspended from the ceiling of the west hall; while in the east hall are installed the Stringfellow machine exhibited at the Crystal Palace Exposition, London, in 1868; the Hargrave compressed-air machine of 1891; the Lilienthal glider of 1894; the three Langley experimental machines, suspended in a row through the middle of the hall; the original engine of the full-sized Langley machine; three models of Chanute gliders of different types, 1896-1902, and the Zehm aerodynamic models.

What is certainly to be regarded as the most important of this series is the Langley experimental aeroplane of model size, which was flown on the Potomac River at Quantico, Va., on May 6, 1896, and made other flights on succeeding days. It was operated by a single-cylinder, one-horsepower steam engine, using gasoline fuel. Launched on the earlier occasion with a steam pressure of 150 pounds, it rose to between 70 and 100 feet and traveled more than half a mile at a speed of between 20 and 25 miles an hour, the propellers making 150 revolutions per minute. The total weight of the model is 30 pounds, and the sustaining wing surface 68 square feet.

This was the first time in the history of the world that a power-driven, heavier-than-air machine was made to fly through the air, and thereby was conclusively proven the correctness of Dr. Langley's theory, in the elaboration of which he spent many years. This remarkable demonstration was in fact one of the greatest, if not the greatest, epoch-making events of the last century, and is universally recognized as the foundation of the science and art of aerial navigation, already, in the short space of 18 years, brought to such wonderful perfection. The second of these machines, which made a flight on November 27, 1896, was built to the same scale as the first, but with some modifications, while the third is an exact reproduction, one-quarter size, of Langley's full-sized aeroplane, and was flown on August 8, 1903. Owing to a defect in the launching apparatus, the two attempts to fly the large machine during Dr. Langley's life proved futile, but in June last, without modification, successful flights were made at Hammondsport, N. Y. It is expected that this earliest man-carrying aeroplane will soon be installed in the Museum.

The Wright biplane has the unique distinction of being the first power-driven aeroplane purchased and put into practical operation by any government in the world. On July 30, 1909, during the experimental tests it made a flight across country from Fort Myer to Alexandria, Va., and return, carrying one passenger, at an average speed of over 42 miles an hour. It was kept in use by the Army service for about two years, and in 1911 was deposited in the Museum.

Four cases pertaining to this division are placed in the north hall among the historical exhibits. They contain memorials of as many individuals who gained renown in the field of scientific and industrial advancement, consisting of apparatus, illustrations of the results of their researches, honors conferred upon them, and other personal relics, including several portraits. Those represented are Joseph Henry, pioneer in the utilization of electricity; Samuel F. B. Morse, best known by his inventions of electromagnetic apparatus and for his successful efforts in the introduction of telegraphy; Cyrus W. Field, who planned and laid the first Atlantic telegraph cable, as well as later ones; and Samuel P. Langley, astrophysicist, inventor of the bolometer for measuring the heat rays of the sun—and the first to demonstrate the possibilities of aerial navigation with machines heavier than air.

TEXTILES AND ANIMAL AND VEGETABLE PRODUCTS.

In the classification of 1881 full provision was made for the subjects of textiles and of animal and vegetable products, including foodstuffs, and with little delay important materials for their illustration were assembled and arranged. These collections were, however, among the first to be retired and placed in storage with the

overcrowding of the building, and while such action was unavoidable, it produced an unfortunate gap in the Museum scheme, which every effort had been made to hold intact. Though constantly looked forward to, the opportunity to revive any of these branches did not occur until 1912, when the division of textiles was reestablished. For the purpose primarily of placing again on display such parts of the older collections of animal and vegetable products as were still in appropriate condition, these subjects were associated with the division of textiles, but with the means available it has been deemed wisest to concentrate most attention for the present on the textiles with which an exceptional amount of progress has been made.

The collections of textiles are designed, aside from the primary purpose of education, to serve as distinct aids to the several branches of this great industry in demonstrating its importance in the life of the people and in recording the economic changes taking place from time to time. There is both a reserve and an exhibition series, the former being exclusively technical, compactly arranged and so catalogued as to permit of ready reference. The exhibition series, selected, labeled, and arranged to furnish an impressive object lesson for the public, includes raw material, classified along industrial lines rather than biological; the technology of spinning and weaving, with specimens of the intermediate steps in the production of yarn and fabric; the ornamentation and utilization of woven structures; and an exposition of the history and development of the various technical operations as well as of the machines used. The exhibition space allotted to the division for all purposes comprises the south hall and southeast court with their galleries, the floor area of the east south range, and the gallery of the southwest court.

Textiles.—The south hall is devoted to an exposition of the origin, preparation, and utilization of the three principal fibers, namely, cotton, wool and silk. Starting with the cotton plant, sheep and silkworm, respectively, there are developed three parallel series of specimens, supplemented by photographs and models, illustrating the processes whereby these fibers are compounded into thread or yarn, and strands of this interwoven into fabrics of various kinds. Another series deals with the ornamentation of the woven fabric by means of dyeing, printing, and brocading.

The cotton exhibit, beginning with a plant bearing fully opened bolls of cotton ready for picking, contains specimens of the bolls and seeds of the most important species and cultivated varieties of the world, a large series of commercially graded raw cotton taken from the world's markets, and a set of the official United States standard cotton grades. In illustration of the processes involved in manufacture are represented the successive operations in making six-cord sewing thread, and the production of a standard cotton gingham,

every stage of which is shown from the opening of the bale to a finished garment. The accompanying large exhibition of plain, piece-dyed, yarn-dyed, and printed cotton fabrics includes not only standard goods like sheetings, drills, cambrics, percales, organdies, chambrays, gingham, double-faced napped goods, cotton flannels, etc., but also dress goods novelties like crêpes and ratines.

The wool industry is inaugurated by a series of raw wools representing the best classes raised in this country, and for comparison a few selected fleeces from other parts of the world. Other specimens show the injurious effects of poor pasturage and disease upon the quality of the material and the trouble and expense caused the manufacturer by improper methods of marking sheep and sorting and baling wool. The very different processes employed in the manufacture of woolen and worsted goods are brought out in three large series of specimens, one showing the successive steps in the production of a woolen overcoat fabric, another of worsted yarn by the French system, and a third by the Bradford or English system. The general collection which follows comprises suitings, broad-cloth, chevots, serges, diagonals, dress goods, crêpes, voiles, challies, cashmeres, Panama cloth, bunting, cloakings, etc., examples of 2 yards or more of each being draped in an effective manner to bring out the particular qualities of each fabric.

The silk section commences with a case devoted to the natural history of the cultivated mulberry silkworm, and includes besides eggs, worms, chrysalises, cocoons and moths, large models of a silkworm and of the male and female moths. A second case contains a series of commercial raw silks from the principal markets, together with specimens showing the methods of wrapping, marking, tying, and conditioning them. In still other cases are illustrated thrown silk and the processes used in preparing silk threads for weaving, sewing, and embroidering, as well as the utilization of silk waste from the steam filatures and of the cocoons from which moths have emerged. The exhibit of silk fabrics, which is extensive, is arranged according to the methods of dyeing and finishing rather than to use, and comprises piece-dyed, skein-dyed, printed, and brocaded goods, besides silk velvets and plushes. At the southern end of the hall is a fine display of color work on silk, which includes skein dyeing, illustrated by two rows of skeins of thrown silk in 150 shades, piece dyeing, and both warp and surface printing of silk goods by copper rollers. In other cases the subjects of textile printing and ornamentation of fabrics by figure weaving are also presented.

A large and deep wall case along the eastern side of the hall is devoted to the historical aspect of the industry, and contains several machines and models of machines which mark important epochs in

the development of manufacturing in this country. Among these are one of the three spinning frames built by Samuel Slater at Pawtucket, R. I., the oldest piece of cotton machinery in the United States; one of the first wool-carding machines constructed in this country; and the oldest example of the Grant silk reel, now in universal use for reeling raw silk. Also included in this display are a number of hand-power machines for spinning, winding and weaving, dating from the Colonial period, and machines for similar purposes used by people of other nationalities.

On the gallery of the south hall are exhibited the raw materials and manufactures of the less important vegetable fibers, and of hair, fur, and felt. The east side is assigned to flax, ramie, hemp, jute, and other exogenous or bast fibers, and the west side to the fibrous materials obtained from endogenous plants like the banana, century plant, pineapple, and cocoanut. Specimens deserving special notice are fine examples of bleached damask table linen, novelty yarns, a printed plush rug made from ramie fiber, wall hangings, figured upholstery fabrics of jute, and Maori robes of New Zealand flax. A series of cordage specimens made from flax, hemp, jute, abaca, sisal, pita, and coir show the importance of these fibers in the industrial world; and brushes and brooms made from palmetto, cocoanut, piassaba, yucca, agave, zacaton, broom corn, etc., are also displayed. The exhibits of hair and fur comprise examples of horse, cow, yak and human hair and of the products derived from them, and the skins of fur-bearing animals like the rabbit, hare, beaver, nutria and kangaroo which are valuable for their felting properties. The manufacture of felt for industrial purposes, piano parts, slippers, etc., and the successive stages in the making of fur-felt hats is extensively represented.

The collections in the east south range comprise, in addition to examples of the coarser weaving operations involved in basketry and the making of straw hats, exhibits of minor textile products, such as ribbons, ties, laces, veilings, braids and fringes; of fabrics of special construction, such as crêpes, Terry cloths, corduroys, imitations of seal, pony skin, and furs, and fabrics showing Persian lamb and similar curled effects; of knit fabrics, hosiery, and intermediate processes; and of small appliances used in the textile industry, such as shuttles, spindles, spools, bobbins, heddles, needles, etc., as well as an exposition of the modern methods of winding and delivering thread, yarn and cordage. The wall cases contain upholstery fabrics, curtains, and wall and floor coverings.

Animal products.—The collection of animal products, exclusive of wool and silk, is very incomplete and has scarcely been added to within the past 20 years. It is installed in the gallery of the southwest court, where the arrangement is planned to emphasize the in-

dustries using these materials rather than to call attention to particular groups of animals yielding important products. The adoption of this scheme has rendered advisable the installation in this connection of certain materials and specimens which are not of animal origin, when such are used in or produced by the same industries, as, for example, -vegetable ivory, celluloid, and like nitrocellulose products, along with the manufactures of ivory, horn and pearl, and the introduction in a parallel series of vegetable gelatines and similar products obtained from animals.

Of materials for carving, turning or molding the most important displayed are ivory, bone, horn, tortoise shell, whalebone, vegetable ivory, mother-of-pearl, and various shells. The ivory collection includes teeth from the elephant, hippopotamus, walrus, cachelot, narwhal, alligator and wild hog, and illustrates the manufacture from them of piano keys, brush backs, combs, billiard balls, jewelry, and handles for tools, knives and umbrellas, intermediate stages of work as well as the finished articles being shown. The utilization of the horns of the ox, stag, antelope, rhinoceros and sheep, and of the bones of many animals is treated in a similar manner. Among other industries represented in this series are the usages to which whalebone and tortoise shell are put, including such substitutes as featherbone, celluloid, and vulcanized rubber; the making of buttons from vegetable ivory, consisting of the seeds of several species of palms; the use of both salt and fresh water shells, furnishing mother-of-pearl, for buttons, jewelry and other ornaments, handles and carved novelties; the pearl fisheries of Ceylon, including models of boats and apparatus, shells, and a small lot of pearls of various kinds; the uses of precious coral, fish scales, and cameo shells. The various kinds of commercial sponges are also shown.

Still other exhibits are of feathers and featherwork, in which the ostrich plume is represented in every grade or form used; the leather industry, comprising the raw and tanned skins of many different animals, implements for dressing skins, and illustrations of the manner of making shoes, gloves, pocketbooks, hand bags, etc.; the use of bristles and hair in the manufacture of brushes; of animal membranes for sausage cases and for the heads and strings of musical instruments; of fishskins and sounds in the production of glue and isinglass; and of lac for sealing wax and shellac.

Vegetable products.—In this section of the division the collections are much less extensive than those of animal products, and there has been available for display scarcely more than was saved from the original exhibition, though recent accessions will furnish more material when there has been time to work them up. A tentative classification has been adopted, and means will soon be taken to systematically collect along the lines marked out. One of the most

important and urgent subjects is a full representation of the useful woods, finished to show their adaptability to different purposes. The manufacture of paper with the use of wood pulp is an industrial problem deserving detailed attention, and there are many others to be presented in the direction of the usages of wood in the arts and manufactures, and the extracts from wood which are of great variety and utility.

There is also the further subject of foodstuffs, of which the Museum once possessed a large collection, that has greatly deteriorated through long storage. It is, nevertheless, exceedingly rich in examples of the foods of the Indian peoples of this country and contains specimens which can not now be duplicated.

ART TEXTILES.

While textiles of high artistic craftsmanship have always had a place in the organization of the department of arts and industries, and an important loan collection of laces was formerly exhibited, circumstances prevented, for a number of years, the continuance of activities in this line. The subject, in fact, lay dormant until 1908 when unexpected assistance was tendered the Museum, and its acceptance has resulted in the building up of a collection remarkable for its comprehensiveness and for its worth. The proposition came from Mrs. James W. Pinchot, who has been supported and aided by many ladies of this city, a committee being formed and a few ardent devotees of the movement giving much of their time to the promotion of its interests. Mrs. Pinchot herself entered into the matter with deepest concern, obtaining desirable materials from every possible source, giving and lending on a greater scale than any other, and during long periods she engaged daily in the installation and labeling of the specimens.

The collection assembled through these means is composed primarily of laces which in number and variety are excelled in only two other museums in this country. Of other art fabrics, such as velvets, brocades, and embroideries, there is also an excellent presentation, and even very different though associated subjects of art, in the shape of fans, enamels, jewelry, etc., have been admitted. With this combination the collection is naturally very beautiful throughout, and in large part it is also markedly brilliant from the display of rich coloring and design. It likewise reaches back through a period of several centuries, bringing down to us the culture and refinement of the past, as recorded by skilled designers and craftsmen, in many rare and treasured heirlooms.

In reviving and fostering this museum branch, which offers so much of interest and pleasure to the casual visitor, the main idea has been, by affording acquaintance with the various kinds of art fabrics,

and especially the laces, using the best examples possible to obtain, to stimulate and assist the handicraft workers of to-day. The object sought is cultural advancement and not the satisfying of curiosity, though one would not minimize or hinder the enjoyable effects which the rich materials convey. Laces are among woman's chief contributions to art, as lacework is an expression of art feeling quite as much as a demonstration of skill in workmanship, and the striking pieces are not only registers of achievements but serve equally well as an inspirational influence in art education.

While containing many articles permanently acquired, the collection consists principally of loans, mainly received from ladies of Washington. That these deposits are steadily increasing, and the withdrawals are few in comparison, would indicate not only that the collection is constantly being strengthened but also that it may be regarded as a permanent feature, especially in view of its many earnest friends. Nevertheless, the conditions could be much improved by the acquisition in perpetuity of at least the materials necessary for a full systematic demonstration of the processes and history of the industries concerned. These alone could not, however, be expected to set forth the great range and wealth of accomplishment in these several lines, and the Museum would still remain dependent upon the same sources of supply which have produced the present splendid exhibition.

The collection of art textiles occupies the east north range, which is situated immediately to the left of the main entrance of the building. Having a floor area of about 4,400 square feet and a height of about 30 feet, the lighting is entirely from the north by means of 7 large windows. The furnishings comprise wall cases on two sides, a large screen at the inner end, and 42 floor cases. The last mentioned are of several patterns, including the flat top, the low double and single slope, and the high double slope, with 3 small Kensington cases and 1 special case. The general arrangement of the floor cases is in three rows lengthwise of the range, with a main passage starting at the entrance. In addition, there is a single row against the wall under the windows and another against the screen. The laces are installed in 26 cases in the central and northern part of the range, and may be briefly reviewed as follows:

The early and conservative period of lace has some excellent illustrations, among which may be mentioned a large piece of Italian drawn work altar cloth with masterly design, a rare sixteenth century Italian Gothic altar scarf, an old Spanish drawn work, an Italian seventeenth century drawn and cutwork piece, and other examples combining embroidery, reticella, and filet.

For the guidance of the student of the history of lace one case has been installed with an Italian reticella towel, eighteenth century;

drawn work; guipure; punto in aria; Gothic; Greek; reticella needle-point, seventeenth century; flat needle-point, Venetian; needle-point punto in aria; needle-point, transition from geometric to scroll; early bobbin, Italian; rare Schleswig needle-point; Venetian gros point; Venetian tape and needle-point, seventeenth century; point de France needlework; Flemish bobbin; needle-point with réseau or net; and other bobbin laces to the end of the series. In several cases in the middle of the range are represented the great periods and centers of the industry or of distribution from which familiar names have been derived. Here are Flemish and Italian bobbin laces of the seventeenth and eighteenth centuries, striking in their bold, simple, and forceful designs. Not less pleasing are the Venetian and Genoese point of the seventeenth and eighteenth centuries, which range from the extremely delicate patterns of the early types to the raised and rose gros point sculptural laces of a somewhat late period which Velasquez and Rembrandt loved to paint.

A number of notable specimens of Venetian lace may be seen in the cases containing personal collections. Brussels for a long period has enjoyed a reputation for producing fine lace. In that city many varieties were worked into one shawl, and there in the early eighteenth century lace was made and sold in England as point d'Angleterre, the name causing some confusion as to its origin. Of the latter are displayed an interesting collar and a large piece of church lace with figures. Valenciennes and Binche of great fineness and beauty were produced as early as the seventeenth century and this group is well illustrated by exquisite specimens. A piece of Binche worked to represent snow crystals and hence called point de Neige deserves special attention. Several excellent pieces of Mechlin are found in the collection, and among the rarer examples is an old Mechlin border with unusual ground. Of Alençon and guipure de Cluny, Burano, and Argentan there are many specimens. These laces show a greater floridness of design than the earlier types and are characterized by the raised surface of the pattern and outlining by stitching. One magnificent piece of old point d'Argentan, believed to be the finest extant and certainly worthy of the highest praise for its noble designing, is attractively displayed.

Bobbin lace required a "pillow" sometimes mounted on a stand. By means of a perforated paper or parchment pattern, and pins and bobbins to which the threads were attached, this lace was made. Two of the pillows about 100 years old and a copy of a painting by Terburg (1608-1681) showing a bobbin lacemaker at work are exhibited in a small case at the west end of the range.

The production of fine bobbin net with small thread furnished a most important stimulus to the making of lace. Often grounds of

plain net were purchased and a well-known variety of lace made by applying patterns to it. Appliqué lace is represented by a Belgian nineteenth century example of extremely fine fond or ground, and an appliqué net lace once the property of Queen Charlotte. Later laces, as Brussels, Chantilly, and Honiton, appear in profusion. Of these Honiton is characterized by simple designing, while Brussels and Chantilly run the gamut of florid patterns. Especially interesting is a Honiton collar with rose, shamrock, and thistle design affected by royalty. Of Spanish blonde, one of the few laces made with silk thread, there are charming examples.

Aside from the laces arranged to give an idea of the types and varieties of this beautiful handiwork are other individual collections placed together and containing rare and valuable specimens which delight the connoisseur. The collection as a whole relates principally to European work, but illustrations of Philippine embroidery and drawn work of excellent quality and of Paraguay Indian lace have been included. Among these are exquisitely fine piña handkerchiefs with worked scenes, and examples of Philippine needlecraft which will repay study.

A special exhibit of great interest consists of weavings, embroideries, samplers, tatting, knitting, and other handiwork of the American gentlewoman of the nineteenth century, together with appliances and accessories, forming a series that is noteworthy on account of its historical treatment of the pursuit of artistic expression during a former period. The fascinating subject of white embroidery has not as yet been given prominence, but a number of pleasing pieces of the work are displayed in the wall and other cases on the south side of the range.

The collection of art fabrics is one of peculiar attractiveness on account of the richness of its materials and colors, to which the spinner, dyer, weaver, and metal worker gave their best craftsmanship. Lace, more modest, employed only threads of white or rarely black to create its marvels, but lace was the final touch, the supreme finish to set off the rich colors of the costume. It is probable also that the edges of stuffs as they came from the loom required lace for their embellishment and in its origin lace appears to have been an outgrowth of this need. It seems remarkable that these brocades, cloths of gold, velvets, satins, and embroideries should have survived the vicissitudes of several centuries and still remain strong and fresh. This is owing to the conscientious manner of their production, and these works will endure when the evanescent fabrics of the present period have crumbled to dust. Another reason for their preservation is that most of the fabrics in the exhibit are in the form of ecclesiastical vestments, which were systematically cared for in the church wardrobes. Among the materials are French, Italian, and

Spanish copes, chasubles, stoles of the fifteenth, sixteenth, and seventeenth centuries in gold and silver brocades and embroideries, and several of these are of the highest excellence. There are also christening robes, chalice covers, embroidered pictures, and other ecclesiastical objects in which textiles were employed. Art craftsmen of the sixteenth and seventeenth centuries displayed great skill in designing and weaving velvets intended for costumes as well as for hangings and upholstery. Velvets reached their acme in Genoa and good specimens are very rare. Some of these of Italian, French, and Spanish weaving are represented and may be compared with a case of excellent Chinese velvets of the eighteenth century.

Embroidery on woven fabric may have preceded decorative weaving. The interpretation of embroidery in weaving produces brocade in which the pattern, as in embroidery, is raised above the surface. Embroidery has persisted from ancient times, however, as a distinct class of work either as a decoration in combination with other methods or as an artistic production. It has given rise to a great number of stitches most of which are represented in the collection, and attention is called to several examples of laid stitch and cross stitch, and especially to a magnificent specimen of Italian embroidery installed on the screen. A number of very quaint and interesting pieces of English stump work of the period of Charles V are also shown. The setting of embroideries with precious and semi-precious stones is frequently observed in antique fabrics, the work often resembling the incrustations of the jeweler. A fine Spanish specimen of this kind is exhibited besides three other examples of embroidery squares and a long panel set with coral. The noble art of tapestry weaving is illustrated by two excellent Italian works, which, together with Persian, Chinese, and Turkish rugs, decorate the walls above the cases.

In connection with the art textiles have been included other classes of art objects such as fans, enamels, jewelry, and ivory carvings. Chief of these special exhibits is a collection of 32 European fans carefully selected by Mrs. Pinchot. They evidence not only the most perfect art and taste, but are also associated with sentiment and history. The enamels are from the famous Limoges artists; they are principally of ecclesiastical subjects and intended for shrines, etc. The colors are gris and polychrome, the former representing the older painting. These enamels may be compared with the ecclesiastical embroideries and embroidered pictures in other cases. A facsimile of the enamel cross of Queen Dagmar, who died in 1212, and a Danish cameo and enamel necklace, the cameos carved by the great sculptor Thorwaldsen, are especially noteworthy.

MINERAL TECHNOLOGY.

This division, the objects of which were partly incorporated in the classification of 1881, has been actively organized for scarcely more than a year, and owing to the complicated character of most of the proposed exhibits rapid progress in their preparation is not to be expected. For an explanation of these objects we can not do better than draw upon material contained in a recent report of its curator. Governmental organizations having already been established for investigating the latent mineral resources, increasing efficiency in their development, and the standardization of the products therefrom, the division should be excluded from activity in any of these directions. Again, in seeking new products or added refinements wherewith to cater to the ever-widening demands of society, manufacturing interests in the field of mineral technology have become awakened to the value of scientific research, no longer merely relying on the casual findings of disinterested investigators. Every important type of operation based on mineral research affords from one laboratory to many devoted to researches problems involved in widening the range of products, giving additional refinements to those already in use, and studying their behavior under specific conditions. As a result, new mineral derivatives, new uses of those already established, and newly determined facts concerning their adaptability are constantly accruing. For the dissemination of this mass of most important information the public is almost wholly dependent upon the industrial advertising manager, and however accurate may be the contributions from such sources, they are bound to fail in their broader educational value through the fact that the information does not emanate from a disinterested source. In its most purely technical aspect, therefore, the real opportunity of the division to be of service lies, not in the direction of abstract research, but in the exactly opposite one of rendering assistance toward keeping the public in touch with important current developments in mineral technology.

The foregoing presents some of the purely utilitarian aspects in the range of opportunity open to the division. An equally important and more fundamental opportunity is offered along the more conventional lines of cultural information. By far the greater proportion of the economic minerals, in one form or another, have grown to be of importance in daily household life; but extension of information concerning them has not kept pace with extension in their use. Everyone is interested in knowing of the source and preparation of the materials in daily use, and by placing such information within the range of popular comprehension the Museum would be rendering a valuable service.

The plans for the development of the division aim, therefore, toward an embodiment devoted to the interests of the public at large as opposed to the abstractly scientific or highly technical, and with its energies directed to the extension of cultural learning together with information concerning significant current utilitarian facts. In the attainment of these results it is proposed, to the extent that space is available, to prepare a model reproduction of each important type of mineral industry operating in the field, tracing conditions and processes from natural occurrence to finished products; around that model reproduction as a central theme to assemble in each instance such a systematic exhibit as will best serve to emphasize important features in both manufacturing processes and industrial capabilities; and finally, as each respective series is completed, to make it the basis of an educational bulletin for popular distribution. Development along such lines will attract the interest and attention essential to the success of the educational effort; will appeal in affording a direct, comprehensive summary of interesting and significant facts in logical sequence; and its possibilities will be country wide instead of limited to Museum visitors.

For the reasons set forth, the research phase of activity has been entirely subordinated to the interests of popular education, and, accordingly, no effort has so far been made to develop a distinct study series. It should be recalled, however, that a very large and exceptionally fine collection of the minerals and ores of the country, divided into exhibition and study series, is in the possession of the department of geology, in the new building. For the division of mineral technology nothing is being accepted at present unless eligible for incorporation in an industrial exhibition representative of conditions and operations in one or another field of mineral resources, the general character of which at least has previously been determined for each subject.

As a preliminary to the development of the division it was necessary to determine upon a suitable apportionment of the available space among the mineral products to be represented, and this again required the planning in at least a tentative way of the size and character of the exhibits relating to each subject. With this broad outline established, it was possible to take up the details and to enter into consideration with the producers and manufacturers as to the means for securing such models and other materials as were needed. All of this work has been entered into most heartily, but it is of such a painstaking character that, except for the few models obtained at the St. Louis Exposition, there would have been scarcely anything for public display by the close of the year. Through the cordial cooperation given the Museum, however, many exhibits were placed in course of preparation, and though some of these will require a considerable

time to complete, accessions of importance may soon be expected to reach the Museum with some regularity.

It is gratifying to note that the public-spiritedness of mining and metallurgical interests has relieved the Museum largely of the first cost of the exhibits under way. This is especially significant since a reasonably complete representation of all the industries in mind will involve a very large expenditure, and outside contributions are essential to its fulfillment. Starting with the mineral resources economically most important, such as iron, clay, gold, silver, copper, etc., and ranging thence downward through the minor ones of bismuth, cadmium, lithium, etc., at the other extreme, there are upward of 50 bases for operations in mineral technology. The minor ones may be provided for readily, but the important ones, as for example, iron, in all their complexity of phase, offer innumerable problems for solution; and with the resources at hand patience must be shown in contemplating the building up of what will ultimately be one of the most important and unique museum demonstrations in the world.

The exhibition space assigned to the division comprises the west hall, the south west and west south ranges, and the southwest court, all of which are adjoining and intercommunicating. One only of these halls had been opened to the public by the close of the year. This was the southwest court which presents a résumé of the occurrence and mining of coal, reasonably complete except as to detail. The chief units in the coal series have been briefly described in the body of this report, and include models of the Consolidation Coal Co.'s colliery at Fairmont, W. Va.; the Pittsburgh Coal Co.'s colliery at Willock, Pa.; the Western Coal & Mining Co's colliery at Jenny Lind, Ark.; the Takashima coal field in Japan; a by-product coke plant according to the Koppers system; non-by-product ovens of beehive and rectangular types; and a bench of gas retorts. Isolated individual models in other halls, belonging to other series being assembled, are of the Fayal iron mine at Eveleth, Minn.; an old-style blast furnace; a pot glass furnace, and a tank glass furnace.

Exhibits in an advanced state of construction comprise sundry detail models for addition to the coal series; detail modeling for the series illustrating glass manufacture; complete demonstrations of the natural graphite industry, the artificial graphite industry, and the abrasives industries, natural and artificial; the occurrence, mining, metallurgy, and industrial adaptability of zinc; the manufacture of lead pigments and alloys; the mining, technology, and uses of asphalt; the occurrence, mining, and technology of gypsum; the mica industry, and the asbestos industry. Less advanced, but nevertheless definitely under consideration, were complete series representing the technology of lime, refractories, alkalies, and ornamental tile.

MEDICINE.

The division of medicine is one of the branches of the department of arts and industries which has been continuously maintained since its establishment in 1881, when it was designated "section of *materia medica*." Its foundation was based upon the large donations of drugs and drug materials received by the Government from exhibitors at the Centennial Exhibition of 1876, which soon were supplemented by important contributions from many other sources. Through this means and by the additions of subsequent years the collection has grown to a considerable size and to a certain degree of completeness, but there is still much to do in the way of perfecting it, and the active support of the division is urgently called for, in view of its direct relations with the medical work of the Government and of its influence on the practice of medicine generally. With its development there has been a broadening of its scope and the assumption of additional features, which add greatly to its cultural value and makes the collection, as exemplified in its exhibition series, entirely unique for this country.

The curatorship of the division until recently has been held by medical officers of the United States Navy, of whom seven have from time to time been detailed to this duty. The first was Surg., later Medical Director, James M. Flint, who not only had the responsibility of organizing and planning the work of the division, but served 25 out of the 33 years since 1881 as its honorary curator, continuing in this office even after his retirement from active service in the Navy.

The search for desirable material was naturally most active during the earlier years, when the field was practically open, and was richly rewarded by numerous and some very extensive gifts from the leading drug houses of this country, representing quite completely the drug commerce of the United States at that time, and also to some extent by donations from abroad. Through the medium of exchange, chiefly with foreign museums, valuable specimens were likewise obtained; the accessions in recent years have been numerous and varied, and in the preparation of exhibits for international expositions means have sometimes been available for securing special features. The collection now aggregates over 6,000 actual specimens, besides numerous pictures or illustrations. There is the customary division into exhibition and reserve series, and notwithstanding the nature of most of the material the former has been made attractive and comprehensible to the general visitor.

Under the original classification, that of 1881, two primary divisions were recognized, namely, inorganic *materia medica* and organic *materia medica*, the latter being subdivided into vegetable products, products of fermentation and distillation, and animal

products. In 1888, in view of the growth of the collection, the variety in points of interest and importance of the individual specimens, and the small amount of space available for exhibition, a modification of this classification was introduced. Retaining its general features, there was a subdivision into several series. The first comprised the more important drugs in general use among civilized people, known as "official" or "pharmacopœal" drugs, illustrated by colored plates, photographs, drawings, etc. The next contained the indigenous drugs of the United States, not official, and the third drugs from Mexico, Chile, India, Japan, Korea, China, and other countries, arranged in separate geographical groups.

The present classification was adopted in 1898, and resulted from the closer association of the division with the ideas embodied in the department of anthropology, in which the subject of medicine had been incorporated under the reorganization then made. The scope of the collection was greatly extended, so as to present as far as possible by object lessons the history and progress of medicine from the earliest times and among the various peoples of the world, which meant the introduction of objects and of illustrations of practices quite at variance with the views of modern civilization. The classification is as follows:

1. Magic medicine, including exorcism, invocations, incantations, amulets, talismans, fetishes, charms, signatures, etc.

2. Psychic medicine, including laying on of hands, royal touch, music, metallotherapy, suggestion, hypnotism, Christian science, faith cure, etc.

3. Surgical medicine, including baths, massage, electricity, acupuncture, cautery, blood-letting, surgical operations and appliances.

4. Pharmacological medicine, including American Indian medicines, Egyptian medicines, Greek and Roman medicines, Chinese medicines, Hindu medicines, medicinal medicines, and modern medicines.

The exhibition series of medicine occupies the north gallery of the east wing, the area of which is, however, much too small even for the amount of material now displayed, and there is a considerable number of specimens and illustrations on hand which it is important should be added. The cases are rather closely arranged in alcove fashion, but notwithstanding their crowding the collection is well installed, and every object is accompanied by a fully descriptive label, besides which there are larger general labels for the cases and sections. Most of the specimens are in sealed glass jars as a necessary protection against deterioration, but some do not require this expedient, and what might otherwise be regarded as a monotonous exhibit is enlivened by special features and by illustrations which are mostly colored. Pictures are, in fact, freely distributed through

the cases, and in many instances they furnish the only means of representing a subject.

The section dealing with the history of medicine has 8 exhibits, beginning with magic medicine, which is followed by psychic or mental remedies, and the medicines of the American Indians, the Egyptians, the Hebrews, the Greeks and Romans, and the other more eastern nations. Of modern medicines there is 1 case of animal products, 10 cases of vegetable products, and 1 case of organic chemical products. Among the special features are 2 screens of portraits of eminent American physicians, 2 pillar screens with pictures of medicinal plants, and exhibits illustrating the composition of food, including milk and bread, the utilization of food, with an example of a day's ration, and the composition of the human body. The instruments used in connection with the practice of medicine are also represented.

The exhibition as at present constituted is of great cultural value, but its importance in this respect could be much enhanced by certain additions, including more botanical illustrations, both as colored pictures and as mountings of actual plants. This it is hoped can soon be done and the collection given more room. The reserve series, however, is the one which appeals most to the profession. It is supposed to contain a fairly complete representation of drug materials, all of which, together with the specimens on exhibition, have been carefully identified and catalogued, but the division has never been supplied with an adequate laboratory through which these materials could be rendered as fully serviceable as is implied in the scheme of the division. The collection should also be kept up to date, all newly discovered substances pertaining to the subject being promptly added, and, furthermore, all specimens in at least the reserve series should be in a condition retaining their full natural properties. On such a basis the division would become in the truest sense, as was intended, a place of reference, where makers and testers of drugs could always find accurately determined samples of all the natural products of which medicines are made. Its importance has always been recognized by the Government, but, through the inadequate support given the honorary curator, it has not been possible to fully or properly carry out the objects to which his time was so long and earnestly devoted. It is the purpose to place this division on a better working basis at the earliest opportunity.

PHOTOGRAPHY.

During a long period there has been gradually assembled a large amount of material designed to illustrate the history and development of photography. This work of collecting was begun by Mr. T. W. Smillie, chief photographer of the Institution and

Museum, and has ever since remained strictly in his charge as custodian of the section pertaining to this subject. So unostentatiously have his labors in seeking original pieces of apparatus from the earliest dates and examples of the results of the various processes been carried on, that only recently has the Museum itself come to fully realize the importance of his efforts. The collection brought together is without a parallel and so well is nearly every step shown that it furnishes an excellent basis for an historical account of this interesting art, on which the world now chiefly depends for illustrative purposes. To the public at large, and even the casual visitor, it has likewise a great attraction at this period when the camera is so universally in vogue. The installation, begun about a year before, was sufficiently advanced to be opened to the public late in June, 1913, but additions have since been made, and others are soon to be expected.

The exhibition of photography occupies the gallery of the northwest court, which has a total length on its four sides combined of 209 feet 10 inches, and a width of 10 feet 3 inches. The north, west, and south sides are provided with a continuous deep wall case, but on the east side, where the large arched openings between the piers, overlooking the north hall, have not been closed, the cases are of several floor patterns, the American, the half-unit slope top, and the flat top. Elsewhere a number of floor cases of different kinds have been placed alongside the outer railing. The light, which comes from a skylight and clerestory windows, is entirely suitable. The labels, though prepared, had not been printed at the close of the year. They comprise individual labels for the objects, general labels for the sections, and very full descriptive labels for the cases.

The gallery is entered from the rotunda at the southeast corner where the earliest objects are first encountered on the right. Thence the order of arrangement is along the east, north, west, and south sides to the point of starting. The collection begins with the camera obscura, and in the several separate cases on the east side is extended through quite a number of the early stages of photography. The camera obscura, known to Euclid in a primitive form 300 years B. C., was first used in photography by Thomas Wedgwood in 1802, though experiments made in the eighteenth century tended in this direction. Wedgwood produced silhouettes in white on a black ground by the use of paper sensitized with a solution of silver nitrate, and also obtained photographs of leaves, wings of insects, and other objects on paper and leather sensitized in the same manner, but, as no solvent had been discovered for the silver salts which remain unaltered by light, these photographs all faded. The exhibit comprises a photograph of an engraving of the camera obscura as used in the sixteenth century, a model of a camera obscura as improved in 1875, and examples of the work of Wedgwood.

The first permanent heliographs by the so-called asphalt process, which seemed to present exceptional opportunities for illustrative purposes, are depicted by a single print made by Joseph Nicéphore Niépce in 1824. The subject of the daguerreotype is well and fully represented by various pieces of apparatus, including a camera used by S. F. B. Morse in 1839, and a large series of pictures. This process, invented by L. J. M. Daguerre and published in 1839, consists briefly in fuming with iodine one surface of a copper plate which has been silvered and highly polished, then exposing it in the camera, developing with vapor of mercury, and fixing in a solution of hyposulphite of soda. The exposure at first required about 15 minutes, but experiments made by others soon afterward reduced the time to less than a minute, and made the pictures more permanent and much more beautiful. The calotype or talbotype, the invention of William Henry Fox Talbot, of England, published in 1840, marked one of the most important advances in photography, as it provided for a negative made of paper from which any number of prints could be taken. The Museum is fortunate in having examples of the apparatus, negatives, and prints, the latter made by Mr. Talbot himself, and including views of his home, Lacock Abbey. The stereoscope with stereoscopic views follows next, as its invention in 1838 was contemporaneous with that of photography, though originally designed for viewing drawings. In the last case of this series are examples of albumen positives on glass and prints from albumen negatives, invented by Niépce de Saint Victor in 1848; of ambrotypes, introduced by Cutting and Rehn in 1850; and of vitrified enamel photographs, invented by Lafon de Camarsac in 1854; besides a series of tintypes by Peter Neff, the discoverer of that process.

At this point is reached the beginning of the wall case, in which and in the few additional floor cases, the collection is continued in about the following order: In the first section is a series of plain silver prints, some of which were made at an early date from collodion glass negatives and called crystallotypes. They were used to illustrate the *Photographic and Fine Art Journal* in 1857 and other publications of that time. Some later prints have also been introduced. The next three sections are devoted to the wet-collodion negative and albumen silver print, representing processes that were employed for many years. The use of collodion as a vehicle to hold the silver haloids on plates originated with Frederick Scott Archer in 1850, while the silver printing process was introduced about 1852. In this connection is likewise displayed a series of composite photographs.

Carbon printing is illustrated in the adjoining section by prints of the various processes. This form of printing is the result of

experiments by many persons, dating back to the fourth decade of the last century, but its discovery can not be ascribed to any one of them. The process used to-day was invented and patented by J. W. Swan in 1866. A view at Essex, Mass., furnishes an example of the making of enlargements through the medium of whey from milk, first published in 1870. The methods of printing in platinum, including the bromogelatin emulsion negative, follow. Platinum printing was invented by William Willis in 1874, the picture produced being composed of platina black, which is almost indestructible, sepia or brown tones being obtained by adding salts of mercury, uranium, or other substances. The process has also been used in decorating linen and wood. In the next section is a series of pictures showing the uses of the various printing-out papers introduced about 1891. Producing results similar in character to the albumen silver print and being ready sensitized for use, they have to a considerable extent superseded the former.

An assemblage of apparatus dating from the introduction of Frederick Scott Archer's collodion wet-plate process, 1852, and including many of the most important modifications and improvements up to the present time, occupies two of the sections, in which the pieces are arranged approximately in the order of their invention. Two other sections display the earliest forms of the hand camera, together with the latest improvements, accompanying which are a number of enlargements mostly made from kodak negatives. A large series of kodak cameras and another of mechanical lens shutters, dating from 1879, are installed in separate cases.

Important results in photography, mainly recent, are represented in several sections, as follows: Portraiture and interior views by means of the flash light; the work of some of the leading portrait photographers in the United States, showing wonderful advancement; a series of photographs by H. P. Robinson and others, collected in 1890, and valued for their pictorial merits without regard to process; a series of photographs selected by Mr. Alfred Stieglitz, of New York, the work of a number of men and women most eminent in the pictorial line of photography during the period from 1841 to 1913; and a large carbon print from a direct flash-light negative by Mr. W. S. Lively, president of the Southern School of Photography. Under printing by development are displayed prints on bromide paper, first produced about 1881 and almost exclusively used for making enlargements by projection, and on chloride developing paper or gaslight paper, invented about 1898.

The development of the motion picture is partly illustrated, the exhibit including the zoötrope, first used for showing drawings representing motion and afterwards with photographs; a model of the

Muybridge arrangement for photographing men and animals in motion, with several prints; and a complete series of the motion-picture cameras and projectors invented by Mr. C. Francis Jenkins, of Washington.

The use of photography in connection with scientific observation is represented by the following series of prints, those from institutions having been received as gifts: The apparatus and photographic work of the Harvard College Observatory, in which the views of the stellar spectra and also the very early results are especially notable; a large photograph of the moon and one of the solar spectrum by Rutherford in 1865, a part of the 36-foot solar spectrum by Rowland in 1888, and a series of recent views of the moon by Ritchey; a fine series of illustrations of work done by the Mount Wilson (Cal.) Solar Observatory of the Carnegie Institution of Washington between 1907 and 1911, including a direct photograph of the sun, a calcium spectroheliogram, two hydrogen spectroheliograms, pictures of various nebulae, prominences on the sun, star clusters, Halley's comet, Saturn, and Mars, and views of the buildings and of the various telescopes and other instruments of the observatory; some very remarkable photomicrographs of disease germs, of laboratory experiments in the growth of animal tissues after the death of the animal, of the transplanting of arteries, etc., from the Rockefeller Institute for Medical Research; and a series of X-ray photographs, mostly of surgical cases, photomicrographs of disease germs causing malaria, cholera, tetanus, hay fever, etc., and of other parasites.

Under color prints are displayed a few of the various processes resorted to in artificially producing colors, as well as the genuine color photographs, but the representation is very incomplete, and important additions are soon expected. Some of the noteworthy contents of the case are a photographic reproduction in color by Mr. Miley of an old family portrait; several prints by the MacDonough-Joly ruled screen process, 1894; one of the earliest three-color colotypes; several of R. W. Wood's diffraction grating color photographs, 1899; one of Prof. Gabriel Lippman's direct color photographs by the interference method, 1891; and a number of autochromes, 1907. A stereomotorgraph, with a series of direct color slides, is about to be installed.

CERAMICS, METAL AND GLASS WARE, ETC.

The gallery of the northeast court has for a long period been dedicated to the subject of pottery, and for 25 years it contained the remarkable Chinese collection of Mr. Alfred E. Hippisley, recently reclaimed by the owner. In the lack of space for the proper display of certain other classes of art this gallery has also been used for

the exhibition of bronzes, of lacquered and glass ware, of ivory carvings, etc., not belonging to the division of history.

Three sides of the gallery are furnished with a single continuous wall case, the framework of which, as of all the other cases, is ebonized. The wall case is divided into sections, each painted a distinctive color to suit its contents, but done so harmoniously as to add to the general effectiveness of the installation, which is one of the most agreeable in either building. The other cases, all of which are placed near together, are mainly square-top floor cases mounted on legs, with a few of the slope-top pattern. A row of these extends along the west side of the gallery, overlooking the north hall, the remainder occupying the inner edge of the gallery against the railing. The arrangement in the wall case is geographical, and in the floor cases it is mainly the same.

The wall case series begins at the right of the entrance to the gallery with excellent types of ancient aboriginal pottery from Central and South America, followed by rare specimens of ancient and modern Pueblo Indian and ancient Mexican ware. A section is given to the ceramics of Spanish and Portuguese America and contains good examples of the terra cotta and glazes of the folk pottery characteristic of those countries. Most interesting products of the old potteries of Pennsylvania and West Virginia are shown in another section, together with modern wares to be noticed later. Especially attractive is a rare series of lead glazes from the old pottery at Morgantown, W. Va., and a small collection of the curious pottery of the Pennsylvania Dutch of the last century. Adjoining are American and European tablewares, noticeable among which are two Bennington, Vt., pitchers with blue background from Miss Katherine Noyes, a set of English luster from Mrs. A. S. Gillett, a set of rare Nymphenburg from Miss Olive Risley Seward, majolica druggists' pots, and copies of apostle pitchers.

The European series commences with English ceramics—Minton & Co., H. Doulton & Co., T. C. Brown, Westhead, Moore & Co., Maw & Co., and other makes chiefly of the period of 1876. Next follows a fine and representative collection of Sevres, presented to the United States by the French Government and intended to illustrate this particular industry in its entirety, from the clays to the finished productions. Three pieces in the same section were donated by the Sultan of Turkey, and a splendid blue vase was the gift of Messrs. L. Straus & Sons. In adjoining sections are French and Dutch ceramics, the latter consisting of blue and polychrome plaques of great variety lent by Mrs. Julian James. They are succeeded by rare Hispano-Moresque copper-luster ware, also lent by Mrs. James, and by Moorish pottery collected in north Africa by Mr. Talcott Williams, showing admirably the great fertility in design of the

potters of that region. A few pieces of the great finds of Cesnola in the island of Cyprus are exhibited in the next section, along with modern Turkish ware.

The farther Asiatic collection starts with specimens of excellent Siamese metal work and inlaying with shell, presented by the King of Siam in 1876. Mortuary pottery from ancient Korean tombs occupies the adjoining section, and following is an exhibition of early Korean protoporcelains, porcelains, stoneware, etc., which are of absorbing interest to students of the beginning of the porcelain industry in China and Japan. These materials were procured by the late Commander J. B. Bernadou, United States Navy, Dr. H. N. Allen, and Mr. Gustavus Goward. Specimens of Japanese bronzes, many of them from the Gen. Horace Capron collection, are installed in the two succeeding sections, and next them is the Capron collection of Japanese lacquer. The remaining sections of the wall case contain modern Japanese lacquer of exquisite taste and workmanship, belonging to the Harold I. Sewall collection; Chinese and Japanese porcelain collected by Miss Eliza Ruhamah Scidmore; Satsuma and other ware of that class, mainly from the Capron collection, together with many specimens presented by the Japanese Government; a small series of Japanese enamels and vases; and Japanese and Chinese art ceramics. Notable in the last section is a large Japanese plaque decorated with doves in flight, and the large blue and white vases of the Capron collection.

The floor cases on the west side of the gallery, with a few exceptions, are used for Chinese pottery and Japanese art metal work belonging to the Sewall and Scidmore collections. Those on the north side contain a wonderful Japanese wistaria vase of Sumida ware presented by Julius Stahel, the remainder of the Scidmore collection of Japanese and Chinese pottery, Japanese small carvings in ivory and wood, illustrations of the Chinese enamel industry from Mr. C. G. Calkins, and small bottles of stone and porcelain. On the east side are two cases of select Japanese pottery lent by Hieromichi Shugio, pottery from Russian Poland, a case of Bohemian and modern iridescent glass after ancient shapes, and two cases devoted to a collection of ancient Cyprian, Phœnician, Greek, Egyptian and Roman pottery, glass and metal work collected by William H. Seward on his journey around the world and presented by his daughter, Olive Risley Seward. Two vases of Savona faïence, lent by the late Mrs. A. H. Magruder, occupy one of the small cases in this series.

On the south side of the gallery American art pottery is placed in juxtaposition with similar material in the wall case. This consists of examples of the work of the designer-artist Edward Lyett; of the Grand Feu Art Pottery, of Los Angeles, Cal.; the S. A. Weller

Pottery Co., whose artist, Jacques Sicard, contributes a splendid luster tablet; the Pope-Gosser China Co.; the Roseville Pottery Co.; D. F. Haynes & Co.; the Warwick China Co.; the Goodwin Pottery Co.; the International China Co.; the Colonial Co.; the Willets Manufacturing Co.; the A. W. Roblin Co.; the Sevres China Co.; the Homer Laughlin China Co.; Sophie Newcomb College; the C. S. Thompson Pottery Co.; the Edwin Bennett Pottery Co.; the Norse Pottery Co.; the Van Briggles Pottery Co.; the Gates Pottery Co.; J. S. Taft & Co.; and the Wheatley Pottery Co. A section of the southeast wall case contains specimens of the earlier Rookwood pottery, the Clifton art pottery, the Grueby Faience Co., the Brower Pottery, and Mayer Bros. The collection of contemporaneous American pottery is interesting but scarcely representative. It shows, however, that American potters are producing specimens of great dignity and worth, which will increase in value and historical importance as records of art.

The south side of the gallery also holds a small exhibit of American glass, notably a complete exposition of the manufacture of cut glass from the Libbey Glass Co.; a quantity of cut, engraved, and otherwise decorated glass from the Dithridge Flint Glass Co.; fine art pieces from the Union Glass Co.; Pomona glass from the New England Glass Works; specimens from the Fostoria Glass Co.; and wonderful examples of Tiffany favrile glass. Two candle shades of English glass about one century old, the gift of Mrs. E. L. McAdory, are shown in a case on the west side of the gallery. Above the wall case are displayed a glazed terra-cotta plaque attributed to Luca della Robbia, lanterns and vases of Japanese work, Cyprian vases, etc., and at the entrance to the gallery are a large Doulton vase and an Italian terra-cotta fountain.

Exhibited elsewhere than in the gallery, but belonging to the division of ceramics, are a number of pieces mostly of large size and some of considerable value. Among them are the following: A pair of centennial memorial vases, presented by the Messrs. Haviland, of Limoges, France, in 1876; an allegorical mosaic, composed of 900 tiles of Limoges faience, representing the genius of man dominating and utilizing fire and water, designed by Bracquemond and made by the Messrs. Haviland; a pulpit and font, and a pair of sculptured tablets, in relief, representing Christ in Gethsemane and the crucifixion, all in terra cotta, made by H. Doulton & Co., of Lambeth, England; a mosaic reredos by Minton, Hollins & Co., of Stoke-upon-Trent, England; and one of the famous peachblow vases and a celadon porcelain vase of the Yung Chêng period (1723-1735), gifts of the Chinese Government.

RELIGIOUS CEREMONIAL OBJECTS.

Religious sentiment expresses itself in creed and cult, and it is the latter which most readily lends itself to museum exhibition. The collection in the National Museum attempts to illustrate and explain by means of objects the rites and practices of seven of the historic religions. It is mainly installed in the south gallery of the west hall, which is entirely occupied, though some of the most striking features, and especially the Buddhist collection of Mr. S. S. Howland, are displayed in the adjoining rotunda of the building. The furnishing of the gallery consists of a practically continuous wall case, 8 feet 2 inches high, with projecting or wing cases, 7 feet high, at intervals corresponding with the wall piers, thus producing a bay or alcove arrangement, and as the wing cases, with one exception, are diaphragmed each of the bays has three distinctive fronts. The amount of space thus supplied is, unfortunately, altogether inadequate for the collection, resulting in an overcrowded arrangement, and preventing the installation of much important material which remains in storage.

The first two alcoves or compartments are occupied by the collection of modern Jewish ceremonial objects which, consisting to a great extent of a loan from Hadji Ephraim Benguiat and his son Mordecai, is unrivaled in completeness and in artistic and historical value. It comprises furnishings and appointments of the synagogue and objects used in public worships, such as curtains of the Holy Ark, Torah scrolls in richly embroidered mantles with silver bells, breastplates, and pointers, Megilloth in revolving cases of wood and silver of rare workmanship, manuscripts of prayer books, lamps and candlesticks of brass and silver, lavers and alms boxes, phylacteries and prayer shawls, etc. Of the numerous appurtenances to the Holy Ark, which constitutes the architectural as well as the ideal center of the synagogue, may be singled out a curtain of red velvet with a border of green velvet, measuring 9 feet 5 inches by 6 feet 3 inches, embroidered in silver and gold with a large burning lamp (symbolizing the light that emanates from the Torah, or the Law of God, which is kept in the Holy Ark), surrounded by flowers and passages from the Scriptures; and another curtain of yellow silk, made in Italy in 1736 and measuring 6 feet 3 inches by 5 feet 2 inches, which is exquisitely hand-embroidered in silver, gold, and silk, with flowers and the tablets of the Decalogue borne upon clouds (the symbol of the Divine presence). A top piece of the Holy Ark, of red velvet, made in England in 1749 and measuring 2 feet 8 inches by 8 feet 1 inch, is adorned in heavy silver appliqué work with the principal parts of the Tabernacle and Temple, viz, the golden frontlet of the high priest, the table of shewbread, the laver, the Ark of

the Covenant with the two tables of the Decalogue, above which are two cherubim, the altar of incense, the candlestick, and the breastplate of the high priest, the whole being surmounted by the three crowns of the Law, the Priesthood, and the Kingdom, and inclosed between wings which symbolize the presence of God. Next follow the articles used on feast days, such as cups, covers and spice boxes of the Sabbath; a complete set of embroidered tablecloths, silver, glass and china ware for the semiritual Passover meal; shofar, lulab, and ethrog, and numerous Hanukah lamps of silver, copper, and brass, some of them of artistic workmanship. One case is given to objects used on special occasions, such as a complete silver set of the utensils of circumcision, illuminated marriage contracts, wedding rings, slaughtering knife, etc.; and objects of the home, such as mezuzoth, mottoes, amulets, mizrahs. In still another case is a series of embroideries and tapestries depicting Bible narratives, such as the sacrifice of Isaac, Joseph in Egypt, the worshipping of the golden calf, the fight of David and Goliath, etc.

The daughter religions of Judaism, namely, Christianity and Mohammedanism, come next in sequence. The latter, in two cases, is represented by a model of a mosque, manuscripts of the Koran upon their inlaid stands, mosque lamps of open brass work, flags and tablets, some of the equipment of pilgrims to Mecca, and the costumes and utensils of several of the Dervish orders.

The Christian collection is obviously confined to the illustration of the ceremonies and usages of the ritual branches of Christianity; that is, the Roman Catholic and Eastern Churches. The former occupies an alcove of three cases. In the center is a wooden altar, 7 feet 3 inches high, dating probably from the seventeenth century, and once belonging to a Roman Catholic church in Hildesheim, Germany, which is adorned with a painting representing the Holy Family. Upon and around this altar are ranged the appurtenances of the church services, as chalice and paten, cruets, candlesticks and hanging lamps, censers and incense boats, holy-water fountains and sprinklers, cibories, and ostensory; and then the vestments for the celebration of the mass and benediction, as albs, stoles, and chasubles of fine brocade with rich embroidery in silver, a Philippine dalmatic of purple velvet embroidered in gold, a cope and veil. In the side cases are exhibited an episcopal mitre, crozier, and pectoral; processional crosses and banners, reliquaries, religious medals, statuettes and plaques representing the Virgin Mary and several saints; devotional objects, such as scapulars, rosaries, prayer books, votive offerings and amulets. Monastic life is shown by the habits of several orders, disciplinary girdles, scourges, etc., while in a special case is a lay figure draped with the costume of the great fraternity of the Misericordia in Italy. Another altar from Hildesheim, 15 feet in

height, which could not be inclosed in a case, is installed in the center of the western end of the gallery, facing the rotunda. It is constructed in a combination of the Gothic, Renaissance and Rococo styles, and is adorned with two paintings, one above the other, the upper representing St. John the Evangelist holding the chalice of the Lord's Supper, the lower the assumption of the Virgin Mary.

The Eastern Church, in one case, is illustrated by the ecclesiastical vestments of a Greek Catholic monk and a Russian and Armenian priest; the staffs or croziers of a Greek Catholic bishop and an Armenian patriarch; an altar cover; a set of musical instruments used in the service of the Armenian Church, and a series of Russian icons. One of these icons, representing the Virgin with the Infant Jesus, is covered with a silver-gilt plate of chased work to represent the clothing, with apertures for face and hands, and studded with freshwater pearls, emeralds, ruby spinels, and garnets, which date from the eleventh to the fourteenth century. The folding doors are adorned with miniatures depicting scenes from the lives of Christ and Mary, and were painted by the artist who designed and decorated the cathedral of Nizhni Novgorod, about 1645.

Passing to Asia, the first case is devoted to Brahmanism, the religion which sways the millions of India. The collection comprises a set of marble images of the so-called *Trimurti* gods and their suites, of the incarnations (*avatars*) of Vishnu and some of the minor divinities. Deserving of special notice are two finely carved stone steles representing Vishnu and his retinue and marble statuettes of Parvati and the sacred cow, exquisitely painted and gilded. Temple utensils, such as lamps, bells, vases, and cruses, illustrate some of the Brahmanic customs, and caste marks give opportunity for explaining the caste system, which plays such an important part in the religious, political, and social life of India. The contemplative and ascetic element of Hinduism is portrayed by a series of terra-cotta models of Yogis and ascetics in various attitudes. In a special case is a complete set of brass utensils used in Hindu family worship, and the sacred writings of Brahmanism are represented by a facsimile of a bark manuscript of the Atharva Veda of the seventeenth century.

Of Buddhism, the offspring of Brahmanism, there is an exceedingly rich collection, filling two alcoves and one special case. It contains many representations of Buddha, in bronze, stone, and shells, and carved and lacquered wood, some of which have much art value. The Sakya sage can be seen in the Burmese, Sinhalese, Japanese, and Tibetan conceptions of him—sitting in meditation, preaching, blessing, and even reclining. A magnificent seated statue of Buddha in bronze, 3 feet high, cast in Ise, Japan, A. D. 1648, with an engraved inscription, rests on a pedestal outside the cases. In addition are figures of temple guards (*Nios*), various divinities,

monks, and saints (*arhats*). The elaborate ritual of Buddhism is illustrated by a large number of musical instruments from China, wooden and ornamental lacquered drums from Japan, temple lanterns, cruses, candlesticks, censers, rosaries, prayer wheels, etc. Of the several models of Buddhist temples may be mentioned that of the Wat Chang pagoda, the most magnificent edifice at Bangkok, Siam, a gift of the Marquis Visuddha, minister of Siam to England, which occupies a special case. The sacred literature of Buddhism is represented by the Siamese edition of the *Tripitaka*, presented by the King of Siam.

A collection illustrating some of the rites and ceremonies of the Parsees or Zoroastrians in India is exhibited in a special case. It comprises a nickel-plated brass set of the utensils for keeping up the perpetual sacred fire, offering trays, religious costumes, sprigs of the sacred haoma plant, and a fine wooden model of the Tower of Silence on which the Parsees lay out their dead. Shintoism, the primitive national religion of Japan, is represented by a collection of shrines and their contents, as the *go-hei*, mirrors, saki cups, two engraved swords in scabbards of cloisonné and lacquer, masks, and votive tablets.

One Kensington case contains a Korean sorcerer's outfit; another, a collection of amulets, ranging from some that were used by the ancient Egyptians to such as have been found among the Negroes in this country; and, a third, a collection of oriental manuscripts (Koran, a Samaritan Pentateuch, and parts of the Ethiopic Scriptures) belonging to the S. S. Howland collection.

A series of photogravures and prints arranged on either side of the high altar in the center gallery supplements and completes the religious exhibit on the gallery.

In the rotunda two colossal wooden images of Vishnu and Buddha, both from Ceylon, attract the attention of the visitor. The rotunda also contains the splendid S. S. Howland collection of Buddhist religious art, already mentioned. Assembled by Mr. Howland during his travels abroad, which extended from Iceland to Burma, most of the objects were obtained by him from their original possessors. Among its contents are a considerable number of Buddha images in teakwood, bronze, and alabaster, gilded and incrustated with colored stones; several lacquered shrines containing figures of Buddha and attendants; figures of Buddhist saints (*arhats*) and monks, ornamental begging bowls; two superb bronze temple lamps of open fretwork, about 4 feet in height, from Tibet; a sacred book written on palm leaves; a howdah, or saddle, of the sacred white elephant; the cabinet of the King of Burma, of carved open woodwork, gilded and inlaid with pieces of glass; and some Chinese and Japanese lacquered and porcelain figures.

A considerable collection of casts of Greco-Roman sculptures, including statues and busts of the divinities, as also votive and sepulchral steles and tablets and bas-reliefs depicting mythological scenes, is exhibited in the new building of the Museum in connection with the display by the division of archeology.

MUSICAL INSTRUMENTS.

One of the most popular and interesting of the subjects embodied in the classification of 1881 is that relating to instruments of music, of which a very good presentation, comprising examples from both aboriginal and civilized peoples, was soon effected. The collection now illustrates fairly well the range and development of these instruments and ranks among the best and most comprehensive in this country. In fact, in many instances, especially as to scientific arrangement, it has been used as a prototype by other museums. After occupying for a long period the wall cases in the north hall, under unfavorable conditions, it was transferred near the close of last year to the northwest court, where the collection as a whole, as well as the individual pieces, may be studied more advantageously. The new installation is in the deep and practically continuous wall case which surrounds the court, broken only at the entrance and in the middle of the opposite side of the room, the latter for the insertion of one large piece of the series. With only table cases on the adjacent parts of the floor, the general view is unobstructed and the lighting excellent. The number of instruments displayed is about 1,200, but there are still others in storage.

The classification, based upon the structure of the instruments, which determines the character of the sound-producing vibrations, is in four general divisions. The arrangement of the collection begins on the left of the entrance and is continued systematically with but a single exception. The first division comprises the vibrating sonorous instruments, such as bells, castanets, cymbals, gongs, musical glasses, rattles, triangles, tuning forks, vibrating tongues, and xylophones. In the second division are comprehended the vibrating membranes, as in the drums and tambourines. Vibrating strings of gut, fiber, or wire compose the third division, which is subdivided into open and stopped strings. In the former—the harp, for example—the string can have but one tone in playing, while in the latter the tone may be changed by means of the fingerboard. There are also further subdivisions, according to the method of producing the vibrations. Strings may be rubbed with a bow, as with fiddles, or rubbed by a wheel, as with hurdy-gurdies, or picked or plucked, as with harps, lyres, psalteries, lutes, guitars, and banjos. Spinets and harpsichords are plucked by means of mechanism connected to a keyboard, dulcimers are plucked by striking with hammers, and

clavichords and pianos are played by means of a keyboard. The highest development of stringed instruments is shown in the stopped class, whose arrangement admits of shades of expression. The fourth and last division, covering vibrating columns or currents of air, is subdivided, according to the method by which the air is set in vibration, into flutes, whistles, etc.; horns, simple, with finger holes, keys or slides; and reeds which are single or double, and further distinguished as beating reeds, free reeds, ribbon reeds, and inverted double reeds.

This classification is simple and easily grasped by the visitor, and it will be seen that instruments which are preferred by both civilized and uncivilized peoples may be grouped together and the different materials and styles of art form an interesting picture. Upon no other possession of man has there been a greater effort to render grateful to the sight objects designed for another purpose. Especially worthy of note is an old English pipe organ which was brought to the Virginia colony in 1700 for the Episcopal Church at Port Royal, and later placed in Christ Church, Alexandria, where it is thought to have been in use when Washington was an attendant. It was subsequently taken to Shepardstown and thence to St. Thomas Church at Hancock, Md., where it remained until 1906, when it was presented to the Museum by the vestry.

OPERATIONS OF THE YEAR.

APPROPRIATIONS.

The maintenance and operations of the National Museum for the year covered by this report, namely, from July 1, 1913, to June 30, 1914, inclusive, were provided for by the following items of appropriation in the sundry civil act approved June 23, 1913:

Preservation of collections.....	\$300,000
Furniture and fixtures.....	50,000
Heating and lighting.....	50,000
Building repairs.....	10,000
Purchase of books.....	2,000
Postage.....	500
Printing and binding.....	37,500
Total.....	450,000

BUILDINGS AND EQUIPMENT.

The greatest extent of repair work was demanded by the Smithsonian building, some parts of which, especially the roofs and windows at the western end, were badly damaged by the storm of July 30, 1913. About 400 running feet of the old and worn-out copper gutters on the main section of the building were also replaced with the best quality of tin, which, if kept painted, should give no further trouble. In the interior of this building terrazzo pavement was substituted for the old splintered wooden floors in the west hall and connecting range, and the walls and ceilings in the same halls, which had become much defaced, largely from the heavy downpour of rain in the great storm, were repainted.

With regard to the older Museum building, the exterior work was almost wholly confined to the roofs, and consisted, besides miscellaneous repairs, of the painting of all exposed metal surfaces, including the cornices, pinnacles, ornaments, etc. The principal repairs in the interior were in the direction of pointing up and repainting damaged and defaced walls and ceilings, and painting the woodwork of windows, mainly in the exhibition halls. In the new building the interior repairs were entirely of a miscellaneous and minor character. Exteriorly the woodwork of all windows in the ground and third stories was painted, and also some of the metal windows in other stories. The roofs and gutters likewise received some attention.

The power plant was closed down as usual during July and August, and the electric current required during that period was purchased from a local producing company at the low summer rate of $2\frac{1}{2}$ cents a kilowatt hour. This arrangement, which was an exceedingly economical one, gave opportunity for overhauling and cleaning the plant and putting it in good condition for the remainder of the year, but no actual repairs of great moment were called for. During this time the employees connected with the operation of the plant were also given the greater part of their annual leave. Owing to an increase of about 80 cents a ton in the cost of coal, there was a distinct increase during the year in the relative cost of heating and of generating electric current, as also in the minor operations connected with the plant, but, on the other hand, much less current was required to be generated than during either of the two previous years. The amount of coal, entirely bituminous, consumed in the boilers was 2,936 tons, and steam was generated for heating purposes from October 13 to May 5, inclusive. Further changes have been made and are still in progress in connection with the distribution of steam to the older main buildings and the outlying buildings, whereby greater economy and more satisfactory results are certain to be obtained. The ice plant continues to give satisfaction, and its capacity is fully equal to the needs of the Museum. The output of ice for the year was 346.8 tons, at a total cost of \$867.92, or a rate of \$2.55 a ton.

The watch clock system in the two older buildings, which had been in use for nearly a third of a century and had in many respects become unreliable, was replaced by one similar to that recently installed in the new building. The clock records cover a period of 24 hours with spacings at 5-minute intervals; there are 24 magneto generator stations and connections with 2 Mutual District Messenger Co.'s turn-in boxes, 1 in each building. All of the stations are required to be visited and a call sent in from each at regular intervals during the night rounds of the watchmen, which insures a positive record that all parts of the buildings have been inspected at the times fixed by the regulations. The fire alarm system used in the older Museum building was extended to the Smithsonian building by establishing 3 turn-in stations, 1 in the middle of the building and 1 at each end, and installing a fire alarm gong at the north entrance. The systems in the two buildings are connected. The addition of automatic elevator door controls to the passenger elevators, referred to in the last report, was completed for both the north and south elevators.

The principal articles of furniture obtained during the year consisted of 230 exhibition cases, 278 storage cases and pieces of laboratory furniture, 124 pieces of office and miscellaneous furniture, 2,396 unit specimen drawers of wood, 600 insect drawers, and 2,175 miscellaneous specimen drawers. The greater part of this furniture was

constructed under contract, the remainder being built in the Museum shops, which were also called upon for much miscellaneous and repair work. A number of old cases and other articles which had outlived their usefulness were condemned and disposed of. An inventory of the furniture on hand at the close of the year records 3,561 exhibition cases, 6,848 storage cases and pieces of laboratory furniture, 3,361 pieces of office and miscellaneous furniture, 40,056 unit specimen drawers of wood, 4,712 unit specimen drawers of steel, 8,439 insect drawers, and 19,751 miscellaneous specimen drawers and boxes of various kinds.

A decision having been reached as to a form of curtain suitable for the large windows in the exhibition halls in the new building, such as were most urgently required were installed during the year. The necessity for the use of curtains arises from the failure of the ground glass to sufficiently protect the colors of specimens, more especially in the zoological and ethnological exhibits. Difficulty was encountered because of the exceptionally large size of the windows and of the fact that each contains two large movable panes near the bottom which require to be kept open in warm weather. In accordance with the system adopted, the main curtains on the first floor, of unbleached muslin, reach from the window top to the upper level of the ventilating openings, and are followed by shorter curtains covering the lower part of the windows. In the second floor, however, the curtains, also of the same material, extend continuously the entire length of the window. All are hung on nickel-plated brass rods and are in pairs, with a simple device for pulling them to the sides. Curtains of this character were installed on the south and west sides of both floors west of the south pavilion and in the court windows adjoining the collections of zoology and ethnology. In addition, and as a very necessary protection for the mammal and bird exhibits, thin black curtains were introduced between the muslin curtains and the glass surface of the windows on the first floor of the west wing and on both sides of the adjoining range. These black curtains, which practically cut out all of the light, are not intended to be used until after the time for closing, or from 4.30 o'clock in the afternoon until 9 o'clock in the morning, during which period for a considerable part of the year the sun's rays continue effective during several hours. It was also found necessary to provide cambric shades for the windows in the north west range of the older Museum building, containing the period costume collection, in order to prevent the fading of the delicate tints in many of the fabrics there displayed.

COLLECTIONS.

The number of accessions received during the year was 1,493, comprising, besides certain loans, approximately 337,705 specimens,

which were apportioned among the respective branches to which they pertained as follows: Anthropology, 14,879; zoology, 257,816; botany, 44,675; geology and mineralogy, 3,648; paleontology, 13,045; textiles and animal and vegetable products, 2,930; mineral technology, 505; and the National Gallery of Art, 207. Numerically, the division of insects received much more than one-half the total acquisitions, namely, over 214,000 specimens. The loans aggregated 2,280 objects, of which 112 consisted of paintings and other articles for the National Gallery of Art, practically all the remainder being intended for exhibition in the divisions of ethnology, archeology, and history.

Material was also received for examination and report to the extent of 859 separate lots, each containing a greater or less number of specimens, of which 59 lots related to anthropological subjects, 249 to biological, and 551 to geological.

DEPARTMENT OF ANTHROPOLOGY.

Ethnology.—Of the 62 accessions in ethnology, the most notable was a collection gathered by Dr. W. L. Abbott in northern Dutch New Guinea, the Moluccas, and Ambon of the Ceram group, during a trip on a trading vessel and while making landings to discharge cargo. The results of this interesting journey, aggregating more than 500 objects which reached the Museum as a gift, indicate that Dr. Abbott's time was most effectively employed. They comprise baskets, mats of exquisite workmanship, bags, belts, necklaces, hair, ear and breast ornaments, bark clothing, carved wooden dishes, stone mauls, adzes, bows, arrows, shields, carved and painted canoe prow ornaments, carved wood idols, spirit flutes, etc. A number of baskets were also received from the Abbott expedition to eastern Borneo, conducted by Mr. H. C. Raven. Probably the most thorough ethnological collection that has come to the Museum from Alaska was a series of over 630 objects obtained on St. Lawrence Island, by Dr. Riley D. Moore, of the Museum staff. It consists of clothing of men, women, and children, a large number of hunting weapons, models of houses, traps, domestic utensils, tools of all classes, ivory carvings, drums, religious objects and paraphernalia, examples of medicines, etc. Many articles of Siouan ethnologica assembled by Miss Frances Densmore, of Red Wing, Minn., are of particular importance since their locality and tribal origin are properly recorded, making the specimens useful for identifying other material from the Plains Indians regarding which the present data are incomplete.

Other noteworthy accessions relating to North America were a series of bromide enlargements of American Indians from negatives taken by Dr. Joseph K. Dixon during the Rodman Wanamaker expedition, and presented by Mr. Wanamaker; a large number of

Indian baskets, bequeathed by Mrs. Mary Manning Fletcher; 19 Navaho blankets and 3 models of blanket frames assembled by the late Dr. Washington Matthews, United States Army, and used by him in the preparation of his work on Navaho weavers, published in the Third Annual Report of the Bureau of American Ethnology, besides a number of miscellaneous objects, received as a loan from Mrs. Matthews; many Mexican relics, consisting of ivory carvings, crucifixes of wood, ivory and metal, and photographs of historical subjects, lent by Maj. Harry S. Bryan, of Mexico City; and a collection of various kinds of objects pertaining to the Spokane, Colville, Okinagan, and Columbia Indians, lent by Mr. Clair Hunt, of Colville, Wash. The division is indebted to Capt. J. R. Harris, United States Army, for a gift of bows, arrows, swords, an alphabet tablet, snares, boxes, etc., from the Moros of Mindanao; and to the Museum für Völkerkunde, Leipzig, Germany, for a collection of material from southeastern Africa, analogous to articles illustrated in the important works of Prof. L. Frobenius, obtained in exchange.

The exhibition series received many additions and improvements. The Hopi family group was completed and installed. The Tehuelche family group, the Zuñi potter, the Navaho silversmith, the Navaho weaver, the Maya-Quiché and Apache subfamily groups, and several single figures were transferred to the new cases specially built for them, this work involving a considerable amount of repainting of figures and readjustment of groundwork. The Igorot group and Kiowa children group were taken down preparatory to extensive changes necessary to place them in a more satisfactory condition. The synoptic series, illustrating the development of the several types of artifacts, which had been in storage for a number of years, was installed in 13 cases, interspersed among the lay-figure group cases in the east and west halls. Progress was also made in other directions, improvements being carried out in installation, exhibits reassembled more effectively and in more accurate geographical relations, and many specimens repaired. Much time was also given to the preparation of case and individual labels, many hand-written ones being used pending their printing.

Plans were made for and work actively begun on an ethnological exhibition for the Panama-Pacific Exposition at San Francisco, figures for two large family groups having been completed, and materials for four floor cases selected. The exhibit will cover a space of approximately 6,000 square feet. The curator also undertook for the Panama-California Exposition at San Diego the supervision of the preparation of models of 10 village groups, illustrating the aboriginal architecture of North and South America. Five of these groups were finished.

The curator, Dr. Walter Hough, continued the preparation of a catalogue of the Hopi-Pueblo Indian collection, of which the

National Museum has the largest in existence, and the manuscript is expected to be ready for the press within a year. His bulletin on the "Culture of the Ancient Pueblos of the Upper Gila River Region, New Mexico and Arizona," was completed and published.

American archeology.—Among the more important of the 49 accessions received by this division were the following: Mr. Chester W. Washburne, collecting for the Smithsonian Institution, mainly in old Indian camp sites and caves in the valleys of the Rio Negro and Santa Cruz in Patagonia, South America, transmitted several hundred specimens, including a roughly shaped mortar and pestle, a disk-shaped rubbing stone, leaf-shaped blades, various chipped implements of usual types and fragments of pottery vessels. An interesting collection of flint implements, grooved axes, celts, leaf-shaped blades, projectile points, and other stone objects from Jackson County, Mo., was received as a gift from Mr. J. G. Braecklein, of Kansas City; and a series of antiquities from Porto Rico, both originals and casts, was obtained in exchange from Mr. George G. Heye, of New York. Mr. Neil M. Judd, of the Museum staff, during an investigation in Guatemala, secured a number of interesting objects, including ancient pottery vessels, examples of earthenware made in modern Guatemalan potteries and sold as antiquities, stone implements, a modern ceremonial mask attributed to the Maya Indians of Chiapas, a large woolen blanket woven by Quiché Indians, and two small wooden carvings, one of a friar, the other of a cavalier, and both doubtless pertaining to the early Spanish occupation of the country. A choice collection purchased of Mr. D. I. Bushnell, jr., of Charlottesville, Va., comprises large chipped flint blades from Missouri and Illinois, showing the polish of long-continued use in cultivating the soil; chipped celts and chisels with ground cutting edges, from the same States and Tennessee; hematite implements from Missouri, and other exceptionally fine specimens. From Mrs. William Elroy Curtis, of Washington, a large series of archeological objects was received as a loan. It includes clay spindle whorls from the Valley of Mexico, a carved stone metate and muller from Costa Rica, a string of beads made of rock crystal from Colombia, and earthenware bottles, jars, cooking pots, bowls, figurines and prayer sticks, wooden spindle whorls, a carved stone llama, hairpins of copper and silver, and other objects from Peru.

With the receipt of the additional cases required it was possible to carry well toward completion the further work of selecting, arranging, and labeling the exhibition collections of the division, which, as a presentation of the archeology of northern America, stands unquestionably first in the world. Much attention was given to the reserve collections, and for the first time the large accumulation

of molds of antiquities made during the past 50 years has been properly assembled, classified, and labeled. Considerable time was also devoted to the selection and listing of exchange material, six important series of objects having been sent out or prepared for sending. The work of the division was much increased during the year by the necessity of engaging in the preparation of exposition exhibits.

Research work was confined to the continuation by the head curator of the preparation of text and illustrations for the handbook of American antiquities which is intended for publication by the Bureau of American Ethnology. Extended studies, however, were made by Mr. Kenneth M. Chapman, of Santa Fe, N. Mex., who is collecting data regarding the evolution of ornamental designs as applied to earthenware, and the examination of specimens by other students was carried on to a limited extent.

Old World archeology.—Although limited in number the accessions of the year contained a considerable amount of exceptionally valuable material. Most prominent among them, received as a gift from Mr. S. W. Woodward, of Washington, was a drawing in color of a mosaic map of Palestine and adjacent regions, the original of which formed the floor of an old church in Medeba, a town in the former territory of Moab, often mentioned in the Old Testament. The work dates from the fifth or sixth century A. D., and is not only the oldest map of Palestine known, but also the oldest detailed map of any country. Unfortunately, on the occasion of the rebuilding of the church in 1896, when the mosaic was discovered, it was much damaged, but the portion preserved includes most of the places connected with Bible history from Nablus in the north to the Nile in the south. Of perhaps equal interest was a collection of ancient coins and other objects made by the Rev. C. S. Sanders while living as a missionary in Beirut, Syria, and lent by his daughter, Mrs. John Paul Tyler, of Baltimore, Md. It comprises, among other items, 19 Greek coins of Alexander the Great and his successors in Syria, 66 Greco-Roman coins—that is to say, coins issued by the Greek communities of Syria and Asia Minor under Roman sovereignty—34 coins of the Byzantine Empire, 1 Phoenician coin, 8 Armenian coins, 45 Mohammedan coins of the Turcoman dynasties of the eleventh to the thirteenth centuries in central and western Asia, and 1 medal of St. George; besides 3 Persian and 4 Syro-Phoenician seals, 2 Syro-Phoenician bronze animal figurines, and 1 Egyptian scarab. A series of Egyptian antiquities presented by the Egypt Exploration Fund, through Mr. S. W. Woodward, a contributor to the Fund, includes an Egyptian limestone stele of Nebsum-menu, measuring $14\frac{1}{2}$ by $8\frac{1}{2}$ inches, 3 well-preserved mummies of the ibis, a pithos, 2 other funerary vases, and the eggshell of an ibis.

Valuable relics of the Stone Age in Europe, consisting of 51 originals and 17 casts of pre-paleolithic and 74 paleolithic implements of Chellean stages of the paleolithic period, were received in exchange from Prof. A. Rutot, of the Royal Museum of Natural History of Belgium. A collection of antiquities, also obtained in exchange, from the Zoological Museum of the University of Copenhagen, Denmark, through Mr. Herluf Winge, director, comprises 65 stone implements, 47 shells, 2 pottery fragments, and 1 bone needle, from the kitchen middens of Denmark, and 59 animal bones from the kitchen middens of Iceland. Sixty-four paleolithic flints (Mousterian type), 10 animals bones and 1 piece of breccia from the La Quina cave, France, were contributed by Dr. Henri Martin, of Paris, France; and a collection of early stone implements recently found in two caves of Jersey, England, were presented by Dr. R. R. Marett, of Exeter College, Oxford, England.

The routine work was chiefly a continuation of the sorting and arrangement of the material of the Stone Age, including the preparation of a slip inventory containing the necessary data for the card catalogue and labels. The addition of 16 table cases entailed the rearrangement of a part of the exhibition series and permitted a better and more adequate display of the collections. About 300 ancient coins were determined and installed, and a considerable amount of material, especially of the Stone Age, which could not be exhibited, was placed in the bases of exhibition cases, where it is convenient for study and reference.

Physical anthropology.—The accessions deserving of special notice, arranged somewhat in the order of their importance, were as follows: A collection of skeletons and skulls of Eskimo and Aleuts made for the Museum, under the direction of the curator, by Dr. Riley D. Moore; 21 crania of Buriats, the most important native tribe of central Siberia, and 5 Mongolian crania from the vicinity of Kiakhta, obtained for the Museum by Prof. A. V. Bartašov, of Troickosavsk, Siberia; 16 anatomical specimens and 12 casts of the brains of prominent persons, received in exchange from Prof. D. P. von Hanse-mann, of the Rudolf Virchow-Krankenhaus, Berlin, Germany; 5 skeletons and 2 skulls from Tennessee and Alabama, presented by Mr. Clarence B. Moore, of Philadelphia, Pa.; and 10 recent skulls, with 6 old skeletons and 2 skulls, from the district of Mělník, Bohemia, collected for the Museum by Prof. J. Matiegka, of the Bohemian University, at Prague. Three valuable additions were made to the collection of casts of early man in Europe. They consisted of the skeletal remains of the Spy Man, obtained in exchange from the Université de Liège, Belgium, through Prof. Charles Fraipont, conservator of its museum; a cast of the La Quina skull, also an exchange, from Dr. Henri Martin, of Paris, France; and a cast of the

skull of La Chapelle-aux-Saints and of its brain cavity, purchased from Dr. F. Krantz, of Bonn, Germany. Three skulls of Patagonians were received as a gift from Mr. Chester W. Washburne, of Washington; and a neolithic skull from Belgium was presented by Prof. A. Rutot, director, Musée d'Histoire Naturelle de Belgique, Brussels.

Considerable progress was made in cleaning, repairing, cataloguing, and arranging the large Peruvian and other collections assembled during the last four years. Every specimen received by the division in recent years has also been examined by the curator, identified as to sex, and its principal characteristics noted, so that the catalogue of the division is gradually becoming more than a mere enumeration. The selection of especially valuable specimens for exhibition has likewise received attention.

The investigations by the curator, Dr. Aleš Hrdlička, relative to "thoroughbred" white Americans, namely, those of at least three generations in this country on each side, was continued, but, owing to scarcity and comparative inaccessibility of subjects, another two years may be required for their completion. They promise results of much interest. A special study undertaken was one bearing on the history of physical anthropology in America, and more particularly in the United States, designed in part for presentation at the forthcoming Congress of Americanists and in part for use in the preparation of the "Handbook of Physical Anthropology," which will be published by the Bureau of American Ethnology. The main research work of the year, however, was that involved in completing the memoir on the "Oldest Authentic Skeletal Remains of Man" in existence, which is being printed in the annual report of the Smithsonian Institution. The curator also made three shorter reports, as follows: On two crania from Saline Creek, Mo., for Mr. D. I. Bushnell, jr.; on parts of crania and skeletons from Lake Worth, Fla., for Mr. O. Randolph; and on recent skeletal collections from Tennessee, for Mr. Clarence B. Moore.

Among persons who visited the division for purposes of study or for instruction were Dr. Ernest A. Hooton, of the Peabody Museum of Harvard University; Dr. James S. Foote, of Creighton Medical College, Omaha, Nebr.; Dr. M. Reicher, of the Anatomical Laboratory of Johns Hopkins University; Prof. George F. Eaton, of Yale University; Dr. R. W. Shufeldt and Dr. C. A. Hawley, of Washington; Dr. G. Werley, of El Paso, Tex.; Dr. W. W. Evans, of Hamilton, Va.; Mr. Ralph Linton, of Philadelphia, Pa.; Dr. G. Hardy Clark and Dr. Margaret V. Clark, of Waterloo, Iowa; and Dr. George A. Wilson, of Cleveland, Ohio.

Mechanical technology.—The addition of 20 models of steamboat propellers, made from descriptions and drawings furnished by the

Museum, to the series already on hand greatly increased the importance of the exhibit illustrating the development of the screw propeller from 1681 to 1890. A circular sundial adapted for the latitude of Peking, China, 40° north, was received as a gift from Mr. Claude L. Woolley, of Baltimore, Md. It is entirely inscribed in Chinese characters, including the motto "With ceremony he delivered to the people the reckoning of time," taken from the Book of History, and referring to the work of Yao, who first introduced the republican form of government into China, about 2000 B. C. For these inscriptions both Mr. Woolley and the Museum are indebted to Mr. Yung Kwai, counselor of the Chinese Legation at Washington. A gold medal presented to Joshua Follensbee, chief engineer, United States Navy, by the Chamber of Commerce and citizens of New York, in commemoration of the part taken by him in laying the first submarine telegraph cable between England and America, in 1858, was lent by Mr. Frank Follensbee, of Clarendon, Va.; and a set of German coin scales made by Johann Daniel Ellinghaus, in Radevormwalde, Germany, which had been in the possession of the Lindinger family, of Buckeburg, Germany, for about 250 years, was purchased.

The following firearms were presented: One Ross magazine sporting rifle, model of 1910, caliber .28, the magazine holding four cartridges, by the Ross Rifle Co., of Quebec, Canada; one Savage magazine sporting rifle, caliber .22, the magazine holding six cartridges, by the Savage Arms Co., of Utica, N. Y.; one Remington repeating rifle, caliber .30, with tubular magazine holding six cartridges, and one Remington autoloading, five-shot, repeating rifle, caliber .35, by the Remington Arms-Union Metallic Cartridge Co., of Ilion, N. Y.; one Winchester repeating rifle, model of 1894, caliber .30, with tubular magazine holding eight cartridges, and one Winchester repeating rifle, model of 1895, caliber .405, with box magazine holding four cartridges, by the Winchester Repeating Arms Co., of New Haven, Conn.; and a single-barrel pistol, caliber .50, percussion cap lock, double set-trigger, Damascus barrel, marked "Dumas A Lyon," and a double-action revolver, caliber .45, marked "G. Mercenier," by Rutgers Ives Hurry, of New York. The War Department deposited a United States Army magazine rifle, caliber .30, model of 1903, with improvements to 1914; and five guns, a gun barrel, and a case containing gun barrels were received as a bequest from Miss Lucy H. Baird.

The collections of the division have undergone much change in location and arrangement, with attendant improvement in convenience and effectiveness. They now occupy the north east range, the east hall, the north east court, and portions of the south east range and west hall. Eighteen upright floor cases received during the year

have been advantageously used for the reinstallation of important exhibits.

The large collections illustrating the beginning and development of the Bell telephone; those representing the inventions of Mr. Emile Berliner in the subjects of telephones and talking machines; the original electrical apparatus invented by Mr. Elihu Thomson, and the experimental apparatus relating to various phases of electrical art devised by Mr. Moses G. Farmer, have been properly grouped, installed in new cases, and provided with suitable labels. The exhibition of historical United States Army rifles and muskets, covering the period from 1800 to the present time, was removed to the northeast court, where the other arms have also been systematically arranged, and decided advance is being made in the presentation of this subject, which is rapidly growing in interest. The Langley aerodrome engine, the Scott phonautograph, the Elihu Thomson arc-light dynamo, the Haynes automobile engine, and the cream separators were installed in separate cases; while the original Haynes gasoline automobile, the Balzer gasoline automobile, the models of Octave Chanute's gliders, and Dr. A. F. Zahm's experimental aerodynamic models were arranged in a single large wall case. In all classes of exhibits new labels are being provided, and this important work is being pressed as rapidly as the facilities for printing allow.

Ceramics.—Owing to lack of space and of opportunity for organizing and appropriately displaying collections of objects in metal and glass, as well as in certain other classes of small art work, these subjects have continued to be mainly associated and exhibited with ceramics in the gallery of the northeast court in the older Museum building. It is hoped, however, that a more satisfactory arrangement can soon be brought about.

The following were the principal additions of the year: Seventeen objects, including 2 Moorish platters, 2 large Chinese vases, a Satsuma vase, a Japanese porcelain dish, a large bronze Japanese vase, and a Japanese mythological figure in bronze, received as a bequest from Miss Lucy H. Baird; 12 pieces of enamel and terra cotta, from the estate of the late Homer N. Lockwood, of Washington; 4 pieces of pottery from the Grand Feu Pottery Co., of Los Angeles, Cal., presented by the potter, Mr. Cornelius Brauckman; and an Italian silver filigree bonbon basket of superior workmanship, received as a gift from Miss Christine W. Biddle, of Philadelphia, Pa. The following loans were from residents of Washington: Twenty-three pieces of English pink luster ware of the eighteenth century, from Mrs. Alfred S. Gillett; and 11 pieces of Bohemian glass and a decorated terra-cotta pitcher of Doulton ware, from Miss Jennie M. Griswold.

Graphic arts.—The more important contributions were as follows, namely: Materials demonstrating the process of making three-color half-tone plates, from the Zeese-Wilkinson Co., of New York; an exhibit containing half-tone screens from 50 to 400 lines to the inch, and a circular screen for color work, from Mr. Max Levy, of Philadelphia, Pa.; a Bruce type-casting machine and a hand mold representing the early methods of type casting, from the American Type Founders Co., of Jersey City, N. J.; examples of rotary intaglio printing, the first made in this country, as well as later developments of the American patents, from Mr. Charles W. Saalburg, of New York; a collection illustrating the process of and the materials used in the manufacture of printing ink, from Philip Ruxton, of St. Paul, Minn.; an autochrome plate with progressive proofs of the same made by the Colorplate Engraving Co., from Dr. Ulysses S. Kahn, of New York; and 91 engraved bookplates from the estate of C. W. Sherborn, the engraver, through his brother, Mr. Charles Davies Sherborn, of London, England.

In view of the extensive changes in progress in the halls of the Smithsonian building assigned to this division, not only was the work of installation brought to a standstill, but it also became necessary to place the greater part of the exhibition collection temporarily in storage. With the completion of the renovations and improvements, however, the conditions surrounding the exhibits should be much improved. Notwithstanding the inconveniences thus occasioned, much work was done upon the collections, including the preparation, remounting, and labeling of display material.

The section of photography also came into possession of valuable exhibition material. A collection of talbotypes, also called calotypes, made by the inventor, Henry Fox Talbot, was presented by Mr. C. H. Talbot, of Chippenham, England. A series of photographs of stellar spectra, apparatus, etc., was contributed by the Harvard College Observatory, through Prof. E. C. Pickering, director; and a fine lot of photomicrographs of disease germs, illustrating the use of photography in laboratory investigations at the Rockefeller Institute for Medical Research, was received as a gift from that institute. The Alfred Stieglitz collection of pictorial photography was purchased at a nominal price from Mr. Stieglitz, of New York, to whom the Museum is greatly indebted. Mrs. Julian James, of Washington, presented a large series of graphoscopic and stereoscopic views, and the Eastman Kodak Co., of Rochester, N. Y., contributed an excellent representation of the history of the hand camera. Through the kind offices of Mr. George W. Harris, of Washington, a portrait from each of nine of the leading portrait photographers of the country was secured to form a group illustrative of professional portraiture.

The installation of the photographic exhibition, which occupies the gallery of the northwest court in the older Museum building, was so nearly completed for the material on hand that it was opened to the public late in June, 1913. The leading features of this important display are described elsewhere.

Medicine.—No progress of any moment has recently been made in this important division, either in the matter of acquiring new material or of further classifying and arranging the collections, owing to lack of means. Dr. James M. Flint, United States Navy, retired, the originator of the collection and for a quarter of a century its honorary curator, left the material in excellent condition when he relinquished his position two years ago. Since then every effort has been made to prevent deterioration, pending the time when the affairs of the division can again be actively taken up. The precautions which this entails have been under the direction of Dr. Walter Hough, who has personally given attention to many of the details. The collections were consulted last year, as they had been in the past, by members of the Bureau of Chemistry of the Department of Agriculture, but with a proper organization of the division the importance of its possessions and opportunities will certainly receive widespread recognition.

Musical instruments.—Of the few accessions received by this section only one was especially noteworthy. This is a violano-virtuoso, an instrument which mechanically plays a violin with piano accompaniment. It is a high product of modern inventive skill, which has succeeded in rendering violin music of great complexity in the style and purity of an artist, and came as a gift from the Mills Novelty Co., of Chicago, Ill.

The collection of musical instruments, through a slow but constant growth, has now reached a stage where it is to be regarded as of exceptional importance. For many years it occupied the wall cases at the sides of the main hall of history, where it was much crowded and so concealed that its extent and value could not be appreciated by the public. Many instruments, moreover, had of necessity to be retained in storage. Near the close of last year, however, the collection was reinstalled in the wall cases surrounding the northwest court, where the pieces may be well observed, though they require to be better labeled. Mr. E. H. Hawley, who has the custody of the musical instruments, has completed through the letter "T" the catalogue of terms used and has begun a review of the instruments of the open hammered string class.

History.—The division of history was the recipient of many accessions, some of which were of much value, and an exceptionally large percentage were permanent acquisitions. Of special interest is a wine cooler of heavy silver plate, containing two bottle holders,

which had been a gift from George Washington to Oliver Wolcott, Secretary of the United States Treasury in 1795-1800. This piece of tableware, one of a number of the same style imported by Washington from France, is of an elliptical urn shape and is decorated on either side, at the top, with a lion's head, from which depends a small silver handle, the entire design being typical of the eighteenth century. Lent by Miss Emily Tuckerman, of Washington, granddaughter of Oliver Wolcott, it has been added to the large collection of Washington relics already in the Museum. Four American chairs of the period of the Revolution, two of which were owned by Maj. Gen. Philip Schuyler of the Continental Army, and two by Alexander Hamilton, besides two mahogany side tables and a half-round mahogany table belonging to Alexander Hamilton, and a small work table belonging to Mrs. Hamilton, were generously presented by Dr. Allan McLane Hamilton, of Great Barrington, Mass., grandson of Alexander Hamilton. With the exception of the small table last mentioned, these articles of furniture were already in the possession of the Museum as a loan. A collection of relics of Rear Admiral Charles Wilkes, United States Navy, consisting of a handsomely jeweled sword and scabbard, presented to him by the city of Boston in 1862 in recognition of his services in the detention of the British steamer *Trent*; a gold medal, awarded him by the Royal Geographical Society of London in 1868 in recognition of his services to science; a service sword carried by him while on the United States exploring expedition, 1838-1842; a uniform hat and epaulets, worn by him during the same period, together with a number of minor relics of the same expedition, were received as a gift from Miss Jane Wilkes, of Washington, daughter of the admiral. The original manuscript application for a pension and related papers, filed by Aaron Burr in 1834 before Richard Riker, recorder of the city of New York, for services rendered as an officer of the Continental Army during the War of the Revolution, were deposited by the Department of the Interior. Accompanying the application is a copy of a letter from Gen. Washington to Lieut. Col. Burr, dated October 26, 1778, giving the latter permission to retire from the service with pay until his health is reestablished. The facts in the application are attested to by the affidavits of David S. Bogart and Robert Hunter, of New York. The sword of Brig. Gen. Strong Vincent, United States Volunteers, carried by him from April, 1861, until July 2, 1863, when he was mortally wounded while in command of a brigade defending Little Round Top, at Gettysburg, was presented by Mrs. Elizabeth C. Vincent, of Chicago, Ill.

Through the bequest of Miss Lucy H. Baird, the division came into possession of a number of personal relics of her distinguished father,

Prof. Spencer F. Baird, the director of the affairs of the National Museum during the first 37 years of its existence. Among them were the instruments used by Prof. Baird in his research work, including microscopes, a spectroscope, various types of magnifying lenses, and other articles of the same general character; the decoration of the Order of St. Olaf conferred upon Prof. Baird by the King of Sweden and Norway in recognition of his services to science; and a table napkin used by Napoleon I during his banishment to Elba, a gift to Prof. Baird by an American friend of the then exile. By the will of the late Homer N. Lockwood, of Washington, the Museum received a unique and valuable collection of 152 walking canes, gathered from nearly all parts of the world and including much of particular interest both historically and as to workmanship. Mention may specially be made of a gold-mounted cane presented to Grover Cleveland by the Swiss Helvetia Society, of Elgin, Ill.; an ivory-headed cane given to William H. Seward on his visit to Alaska in 1869; and a silver-mounted cane belonging to Capt. (Rear Admiral) Charles D. Sigbee, United States Navy, while in command of the U. S. battleship *Maine*. The National Society of the Colonial Dames of America made a number of additions to its already large and interesting collection deposited in the Museum.

The collection of postage stamps, stamped envelopes, and postal cards was increased by deposits from the Post Office Department to the extent of about 10,000 pieces, comprising all recent issues by the countries in the Universal Postal Union. The coin and medal collection also received many valuable additions; and the bequest of Miss Lucy H. Baird included about 400 photographs of scientific men, which were incorporated in the portrait collection.

The offices of the division, formerly occupying two small rooms at one side of the north entrance, were moved to more commodious quarters in the west tower, where the work called for in the various sections can more satisfactorily be carried on. The collections are reported in good condition, though in some directions their safety is difficult to maintain owing to the quantity of material, especially of fabrics, subject to the attack of insect pests.

An important task begun near the close of the year was the renovation and placing in what is intended to be a permanent state of preservation of "The Star-Spangled Banner," of Fort McHenry, lent to the Museum some seven years ago, and last year made an absolute gift by its owner, Col. Eben Appleton, of New York. When writing the story of this flag, Rear Admiral George Henry Preble, who had it in his possession for a short time, caused it to be mounted on a piece of rather heavy canvas, to which it was only partly attached. This light and much frayed piece of bunting is now being fastened to a backing of Irish linen in the same manner as were the

old flags at the Annapolis Academy a short time ago; that is to say, by means of a peculiar net stitch which covers the entire surface of the fabric and thus reduces to a minimum the strain on any one part of the flag. The silk thread that is being used for this purpose is dyed to match exactly the color it is worked over, and at a short distance the net covering is scarcely apparent.

It is also interesting to note the public installation in the northwest court of the older building of the coin and medal collections, aggregating over 6,000 examples which had previously been in storage. The installation of the stamp collection, which has been rapidly advanced, is also being made in the same court.

The paper on the Washington relics preserved in the Museum, by the assistant curator of the division, Mr. T. T. Belote, was completed, but its publication is delayed by the necessity of incorporating references to material lately acquired. Mr. Stanley Arthurs, who has been commissioned by the General Assembly of Delaware to execute for the senate chamber in Wilmington a mural painting showing the Delaware troops leaving Dover during the War of the Revolution, made a special study of the uniforms and costumes of that period in order that his pictorial work might be based on authentic data.

Period costumes.—Mrs. Julian James and Mrs. R. R. Hoes continued, with their customary zeal, their self-appointed task of securing materials for the period costume collection, and during most of the year they were closely occupied in arranging the interesting fabrics and other articles which had been received. The results of their labors, successful and most brilliant in effect, have already been described, and there only remains to be accounted for in this connection the many and valuable contributions of the year.

Of costumes of ladies of the White House, forming the central and most prominent feature of the exhibition and including some accessories, six were received. One was a gift, the others being loans. In the order of presidential administrations these contributions were as follows: A dress, kid slippers, a fan and pearl beads, worn by Mrs. John Adams, received from Miss Susan E. Osgood, of Salem, Mass. A Watteau dress, in two pieces, of pale blue silk embroidered with straw, worn by Mrs. Maria Hester Monroe Gouverneur, youngest daughter of President Monroe, received from Miss Maud C. Gouverneur. An old gold satin bodice, with blonde lace overdress and flounce, worn by Mrs. Andrew Jackson Donelson, niece of Mrs. Jackson, and mistress of the White House during President Jackson's administration, together with a tortoise-shell comb and silver filigree cardcase of Mrs. Jackson, and an invitation to the Jackson ball, Nashville, 1828, addressed to Mrs. Donelson, received from Miss Mary R. Wilcox, of Chevy Chase, Md., granddaughter of Mrs. Donelson. A blue velvet dress, lace fichu, lace and embroidered

handkerchief and fan which had belonged to Mrs. Sarah Angelica Van Buren, wife of President Van Buren's son, received from Mrs. Helen Coles Singleton Green, of Columbia, S. C. A dress of mole-colored velvet worn by Mrs. Jane Irwin Findlay, wife of Gen. James Findlay, one of the mistresses of the White House during the administration of William Henry Harrison, received from Mrs. William Torrence Handy, of Cynthiana, Ky. A dress of blue brocaded satin made by Worth in 1844 and worn by Mrs. James K. Polk, presented by Mrs. George W. Fall, of Nashville, Tenn., the niece and adopted daughter of Mrs. Polk.

As further relating to the White House, the Museum is indebted to Mrs. R. R. Hoes and Miss Maud C. Gouverneur, of Washington, both jointly and individually, for the loan of many memorials of President and Mrs. Monroe. Among the articles, which are too numerous to specify in full in this connection, are a mahogany side chair, red satin footstool, a standing dresser mirror, and a Chippendale table brought from France by Mr. and Mrs. Monroe in 1796; a superb silver chocolate pitcher and cream jug, and the only piece of Monroe china known to be now in existence; a number of badges, chiefly of the American and French revolutions; many pieces of jewelry, including articles pertaining to personal attire; a letter written by James Monroe on March 2, 1786, announcing his marriage; and a dressmaker's bill made out to Martha Washington and several articles which had belonged to Mrs. Maria Hester Monroe Gouverneur, including her seal.

Dresses other than those pertaining to the White House were received as loans, as follows: The wedding dress of Mrs. Porter, wife of Rear Admiral D. D. Porter, United States Navy, March, 1839, from Mrs. Charles H. Campbell, of Washington; a black velvet gown and the robes worn by the celebrated American actress, Charlotte S. Cushman, in her impersonation, respectively, of Catharine and Cardinal Wolsey in Henry VIII, from Mrs. Allerton S. Cushman, of Washington; two dresses of Mrs. Charlotte R. Myers Jackson, together with slippers, gloves, and lava jewelry, from Miss Fannie A. Jackson, of Yonkers, N. Y.; a purple satin dress of Mrs. Satterlee, wife of Bishop Henry Yates Satterlee, from Mrs. Satterlee, of Washington; the wedding dress and an evening gown of Mrs. Dewey, wife of Admiral George Dewey, United States Navy, from Mrs. Dewey.

A loan of exceptional interest, mainly associated with colonial times in Philadelphia, received from Mrs. Thomas Hamilton Wilson and Miss Abercrombie, of Washington, contains a bodice and the material of the skirt of a white satin dress embroidered in rose buds, which was worn by Mrs. Patterson, wife of Gen. Robert Patterson, as hostess at a ball given in Philadelphia in honor of Gen. Lafayette,

lace fichus, and an apron and capes of tambale embroidery, besides other articles of wearing apparel, a sample of early quilting, fans, etc. A large collection from Mrs. Julian James is especially noteworthy as representing the history of an American family during the period of a century past by a great variety of objects of costly materials and fine workmanship. There are dresses, bonnets, laces, gloves, and the various other classes of objects necessary to complete the attire of the well-dressed woman, ornaments for the hair, jewelry of many kinds, accessories for the street, toilet articles, and other household belongings. The Misses Long also contributed a large number of specimens which are especially important as showing the exquisite needlework and great taste of our ancestors in providing articles for their personal use. Their loan contains oriental crêpe material of a wedding dress imported about 1810, baby clothes, a cap, a handkerchief, fans, slippers, stockings, lace sleeves, fichus, household articles, a comb, sets of jewelry, a brooch, etc.

Exceptionally notable was a gift from Mrs. John Van Schaick, jr., of Washington, of 10 pieces of jewelry and 1 of ivory, which are both intrinsically and artistically of much value. They were the property of Julia Adelaide Tyson, wife of Benjamin F. Romaine, of New York, and mother of Mrs. Van Schaick, and comprise bracelets, earrings, and a brooch of Roman gold set with cameos and pearls, a brooch with miniature on porcelain of Holbein's Madonna, a pendant of mosaic, an enameled brooch, a Limoges pendant of Henry IV, a brooch set with a trilobite, and an ivory triptych of the fifteenth century.

Among other loans of miscellaneous articles were 7 shawls of Cashmere, crêpe and lace veils, fans, brooches and other jewelry, a Lowestoft tea caddy, badges, etc., from Mrs. E. L. McClelland, of Washington; a locket with a picture of "Peace," period of 1812, and a tortoise-shell back comb, from Mrs. Frank W. Clarke, of Washington; 3 bonnets of 1850 and a fur muff, from Mrs. Allan McLane, of Washington; silver mugs, knives, forks, and spoons, period of 1860, besides needlework and wearing apparel, from Miss Jennie M. Griswold; and 6 beautiful Spanish and French fans from Madame Carlos Maria de Pena, wife of the minister from Uruguay. Three fans, 2 cardcases, and a pair of jet bracelets contained in the bequest of Miss Lucy H. Baird were assigned to this collection. Besides the India shawls already referred to, 2 were received as a gift from Miss L. L. Lander, of Washington, and 1, of the period of 1820-1840, was presented by Commodore R. G. Davenport, United States Navy, retired, while 1 was lent by Mrs. John E. McElroy, of Albany, N. Y.

Work of the preparators.—In the general laboratory of the department, which remains under the immediate direction of the head

curator, the varied activities connected with the building, modeling, casting, painting, repairing, cleansing, and poisoning of exhibits were carried on as usual. Mr. H. W. Hendley, for several years in charge of this laboratory, resigned on July 19, 1913, and was succeeded by Mr. W. H. Egberts. Mr. R. A. Allen and Mr. T. W. Sweeny were engaged in the division of ethnology, while in the several other divisions the preparatorial work was attended to by the curators, with such assistance as was needed. The volume of work was greatly increased during the year, and much extra help required, on account of the preparation of extensive exhibits for the Panama-California Exposition and the Panama-Pacific Exposition, as well as of the exchange arrangement with Prof. C. V. Hartman, of the Naturhistoriska Riksmuseum, at Stockholm, Sweden. Mr. U. S. J. Dunbar modeled a large number of figures for the family and industrial groups; Mr. Hendley, subsequent to his separation from the Museum, modeled and painted, under contract, plaster figures for the historic costume exhibit; and Mr. Frank Mička made cases and painted numerous figures for the expositions.

Exhibition collections.—Steady progress was made with the exhibition collections, except in the division of graphic arts, where the renovation of the halls interrupted all operations. The more important and effective results were in connection with history, period costumes, photography, and musical instruments. Permanent assignment of space has now been arranged for most subjects, the exhibition material, so far as it can be supplied by the existing collections, has been in great measure selected, the cases are largely provided, and installation and labeling has been interrupted only by the preparation of exposition and exchange exhibits.

Explorations.—No member of the staff of the department found time to engage in field work, except that the head curator spent two days in visiting a very interesting aboriginal site near Luray, Va., on behalf of the Bureau of American Ethnology. Several joint expeditions of the Museum and the Panama-California Exposition, however, were conducted under the direction of the curator of the division of physical anthropology, as follows:

Prof. K. Stolyhwo, director of the Anthropological Institute of Warsaw, Russian Poland, examined certain caves which the curator had previously visited on the Yenisei River in Siberia, with the view of obtaining traces of neolithic and possibly older human remains. The exploration, which was greatly interrupted by adverse climatic conditions, extended over six weeks, and, while failing to furnish skeletal remains of much value, it resulted in the acquisition of important data and numerous very interesting archeological specimens. An investigation among the uncivilized tribes of southeastern Siberia, in charge of Dr. Stanislaw Poniatowski, chief of the Ethnological

Laboratory of Warsaw, was begun in the spring of 1914 and still remains unfinished. Its main object is to secure photographs and casts of the Siberian natives who bear so close a physical resemblance to the American Indian. An important expedition for the study of the development of the Negro child among the Zulu, Bushmen, and other native tribes in south and east Africa by Dr. V. Schück, one of the most promising of the younger generation of European anthropologists, was nearing completion at the close of the year. Besides the making of photographs and casts of these primitive peoples for the San Diego exposition, the principal purpose of this research is to obtain data on the growth of the Negro child in its native land to serve as the foundation for contemplated studies on the Negro as acclimatized in this country.

DEPARTMENT OF BIOLOGY.

The number of accessions and of specimens received by this department was somewhat greater than in the previous year, the most notable acquisition having consisted of some 200,000 insects obtained by entomologists of the Department of Agriculture during economic investigations in Texas and neighboring States. Mr. H. C. Raven, whom the exceeding generosity of Dr. William L. Abbott permitted to remain in eastern Borneo, sent from there over 1,500 mammals and birds. The Bureau of Fisheries transmitted extensive collections of fishes and marine invertebrates, a large number of reptiles and batrachians from various parts of North America, and the first series, with types, of the mammals obtained in Lower California during the cruise of the steamer *Albatross* in 1911. From the Biological Survey were received many mammals from Patagonia, and reptiles and batrachians, chiefly from Panama; and from Prof. A. M. Reese a considerable collection of marine invertebrates, besides a number of reptiles and batrachians, secured in the Philippine Islands. These were the principal accessions which had to be divided between two or more divisions, and they will again be referred to in their appropriate places.

Mammals.—Additional specimens of the rare *Tupaia mülleri* and *Reithrosciurus*, mentioned in the last report, were contained in the collection of Mr. Raven from Dutch East Borneo, and also a shrew of the genus *Crocidura* and a rare cat, *Felis badia*, both new to the Museum. The Lower California mammals obtained during the cruise of the Fisheries steamer *Albatross* in 1911, including Dr. C. H. Townsend's types of 10 new species, have already been spoken of, as have also the Patagonian mammals transferred by the Biological Survey. Mr. Arthur de C. Sowerby transmitted 121 specimens from Manchuria, among which is a new species described by Mr. Miller

as *Apodemus praetor*; and an important gap in the palearctic series was filled by the purchase of a specimen of the Chinese so-called "horse-tail" deer, *Elaphurus davidianus*, which will soon be mounted for exhibition. A notable gift from Dr. Enrico Festa consisted of a deer, *Cervus corsicanus*, and a wild boar, *Sus meridionalis*, from the island of Sardinia. The African collection was increased by a number of specimens obtained by Dr. V. Schück in northern Zululand, and by Mr. H. J. A. Turner in British East Africa, among the latter being types of several new forms. Mr. C. T. Summerson presented specimens from Alaska, including two skulls of Dall's sheep, and Mr. F. D. Ward donated a complete specimen of the dugong preserved in formalin.

The tanning of large and medium-sized skins was nearly completed and the taxidermist detailed to the division made up 325 skins for the reserve series, consisting mainly of small carnivores and monkeys from the Borneo collection of Mr. Raven. Unusual progress was made in the preparation of osteological material, some 920 large skulls, 93 more or less complete skeletons, and many hundreds of miscellaneous bones, chiefly leg bones, having been cleaned at the Museum, and 3,200 small skulls and 80 skeletons, by contract.

The mammals from the Smithsonian African Expedition were rearranged and most of those from South Africa were identified, the labeling of both being completed. Much work was done toward installing the skulls and skeletons of large mammals in 100 quarter-unit cases specially provided for the purpose in the west attic. With the exception of the cetaceans, the American deer, and the family Bovidae, the entire collection of large mammal skeletons is now supplied with proper case room. The whale skulls and skeletons are still temporarily quartered in the north gallery and northeast basement of the old Museum building, while a few skulls too large to be accommodated there have been placed provisionally with the osteological exhibit in the new building.

Research work in this division was largely restricted to the description of new forms discovered incidentally during the identification of collections recently received or in the course of revising and redetermining old material, as indicated by the titles of the papers cited in the bibliography at the end of this report. In addition, the curator of the division, Mr. Gerrit S. Miller, jr., prepared a new edition of the Directions for Preparing Specimens of Mammals, and the assistant curator, Mr. N. Hollister, completed a monograph of the grasshopper mice, *Onychomys*. Dr. C. Hart Merriam, associate in zoology, continued his studies of North American bears, the monograph on this subject, which has long engaged his attention, being now well advanced toward completion. Dr. E. A. Mearns, United States Army,

retired, also associate in zoology, studied the raccoons of the Mexican boundary survey, of which he was the chief zoologist; and Mr. Edmund Heller continued his work on the mammals of the Smithsonian African Expedition, of which he was one of the naturalists.

The members of the Biological Survey of the Department of Agriculture had at all times full access to the collections, which were also consulted by Dr. J. A. Allen, Dr. W. K. Gregory, and Mr. A. C. Andrews, of the American Museum of Natural History; Mr. W. H. Osgood, of the Field Museum of Natural History; Dr. O. P. Hay, of the Carnegie Institution of Washington; Dr. J. C. Merriam, of the University of California; Dr. D. G. Elliot, of New York; Dr. R. W. Shufeldt, of Washington; and Mr. Childs Frick, of Bryn Mawr, Pa. Specimens were lent for study to Dr. G. M. Allen, of the Museum of Comparative Zoölogy; Dr. J. A. Allen; Mr. H. B. Bailey, of Newport News, Va.; Prof. T. D. A. Cockerell, of the University of Colorado; Mr. Childs Frick; Prof. George S. Huntington, of the College of Physicians and Surgeons of New York; Dr. J. C. Merriam; and Mr. Witmer Stone, of the Academy of Natural Sciences of Philadelphia.

Birds.—The birds received from Mr. Raven in east Borneo comprised 701 skins, besides a few skeletons, eggs, and nests. A generous gift from Dr. Edgar A. Mearns, United States Army, retired, consisted of his private collection of 1,577 skins, 780 eggs, and 48 skeletons. In addition to a large number of foreign species, chiefly from England and Denmark, this donation contains a selected series from Dr. Mearns' early collecting, including many specimens from the Fort Verde region, Ariz., and examples of several exceedingly rare forms, as, for instance, two passenger pigeons, now extinct in the wild state, and two Carolina parakeets and one ivory-billed woodpecker, both of which are nearing extinction. Another welcome accession, presented by Mr. Otto Holstein, was composed of 25 bird skins from Ecuador, among them being two skins of the spine-tail humming bird, *Leptasthenura andicola*, and a species of *Calospiza*, new to the Museum. To facilitate the researches of Dr. Mearns on the east African birds from the two expeditions of which he was a member, 15 skins of birds from Africa, including a species of *Myioceyx*, a genus not hitherto represented in the collection, were purchased.

The rearrangement of the reserve series of bird skins was continued more actively than during the previous year owing to increased facilities, with the result of advancing the revision to the extent of 20 quarter-unit and 53 half-unit cases. This brings the new installation, commencing with the passerines, down nearly to the end of the birds of prey. Case and drawer labels were prepared for these 73 cases and temporary labels for the remainder of the series,

the contents of which were much shifted during the year. The work of dismounting the large number of birds withdrawn from exhibition was continued by contract with very excellent results, and much labor was expended in properly relabeling about 700 birds thus returned to the reserve series. The search for type specimens was also continued, and several were discovered, notably the type of Girard's *Icterus auduboni*, which had long been considered lost.

The osteological series was systematically arranged in the cases provided for the purpose, the loose bones were numbered, and the material was partly cleaned. The drawers were temporarily labeled to show the orders and families contained in each, and the skeletons received from the preparators the previous year were catalogued and numbered, but not distributed. About 200 birds' eggs were placed in their cases, but most of the accessions of eggs were left for attention at a future time.

Part 6 of the great work on the Birds of North and Middle America, by Mr. Robert Ridgway, the curator of the division, was published on April 8, 1914. In spite of continued ill health, Mr. Ridgway has also made material progress in the preparation of manuscript for the parts to follow. Several of the orders and higher groups to be included in part 7 have been elaborated, and the synonymy and references for various groups not only in this, but in subsequent parts as well, have been worked up. On account of the pressure of routine duties Dr. C. W. Richmond, the assistant curator, could give but little time to research work. He saw part 6 of Bulletin 50 through the press, supplying and verifying references and helping to prepare the index. In these tasks he was assisted by the aid of the division, Mr. J. H. Riley, who was also of much help to Mr. Ridgway in compiling references and measuring specimens. Dr. E. A. Mearns continued his studies of east African birds, with particular reference to the ornithological results of the Smithsonian and Frick expeditions, and he was given special assistance during several months for measuring and cataloguing specimens. Thirty-six new forms were described by him in publications issued during the year. Mr. A. C. Bent, of Taunton, Mass., also made progress with his work on the life histories of North American birds.

The facilities offered by the division were constantly utilized by the staff of the Biological Survey. Mr. Alex Wetmore examined the skeletons of passerine birds and incidentally aided very materially in rearranging and putting this part of the collection in order. Mr. H. C. Oberholser completed a monograph on the goat-suckers of the genus *Chordeiles* and a review of the forms of *Entomothera*, a genus of kingfishers, basing his observations chiefly on Museum material. He also continued his investigations of East Indian birds, largely contributed by Dr. W. L. Abbott. In addi-

tion to the committee on classification and nomenclature of the American Ornithologists' Union, which spent three days in the division, many members of the union availed themselves of the opportunity to study various specimens during the annual meeting which was held at the Museum in April, 1914.

Among ornithologists who conducted more or less extended researches in the laboratory were Mr. W. deW. Miller and Mr. J. T. Nichols, of the American Museum of Natural History; Mr. R. C. Murphy, of the Brooklyn Institute of Arts and Sciences; Mr. W. H. Osgood, of the Field Museum of Natural History; Mr. W. E. Clyde Todd, of the Carnegie Museum; Dr. Thomas Barbour, of the Museum of Comparative Zoölogy; Mr. H. K. Coale, of Highland Park, Ill.; Dr. Jonathan Dwight, jr., and Mr. C. H. Rogers, of New York; Mr. J. H. Fleming, of Toronto, Canada; Mr. Harry Highbee and Mr. F. H. Kennard, of Boston, Mass.; Dr. L. C. Sanford, of New Haven, Conn.; Mr. George Shiras, 3d, and Lord Percy of the British Embassy, Washington; and Mr. Otto Widmann, of St. Louis, Mo. The collection of birds' eggs was consulted by Mr. H. H. Bailey, of Newport News, Va.; Mr. R. M. Barnes, of Lacon, Ill.; Mr. George H. Lings, of Nyack, N. Y.; Mr. J. Parker Norris, jr., of Philadelphia, Pa.; Mr. Roswell S. Wheeler, of Oakland, Cal.; and Mr. John Williams, of Iowa City, Iowa. Access to the collection of skeletons was granted to Mr. Loye Holmes Miller, of Los Angeles, Cal., and Dr. R. W. Shufeldt, of Washington.

A large number of specimens were lent for study to institutions and individuals as follows: Mr. F. M. Chapman, of the American Museum of Natural History; Mr. W. E. Clyde Todd; Mr. R. C. Murphy; Dr. Thomas Barbour, and Mr. Outram Bangs, of the Museum of Comparative Zoölogy; Mr. H. S. Swarth, of the Museum of History, Science, and Art, Los Angeles, Cal.; Mr. Joseph Grinnell, of the Museum of Vertebrate Zoology of the University of California; the Colorado Museum of Natural History, Denver, Colo.; Mr. H. K. Coale; Mr. Louis Agassiz Fuertes, of Ithaca, N. Y.; Mr. H. H. Kopman, of the Conservation Commission, New Orleans, La.; Dr. W. L. Sclater, of the British Museum of Natural History; Dr. Josef Gengler, of Erlangen, Germany; and Mr. Frank Bond, of Washington.

Reptiles and batrachians.—Mention has already been made of material received from the Bureau of Fisheries, the Biological Survey, and Prof. A. M. Reese. To Dr. J. C. Thompson, United States Navy, the division is indebted for a large number of specimens collected by himself on the west coast of Mexico and in California, including all of those on which was based his intensive study of the variation of a species of gartersnake on the peninsula of Sausalito, published by the Museum during the year. Several rare species were obtained by

Mr. G. S. Miller, jr., in Mississippi and Alabama, and to augment the turtle collection, which has been at a standstill for many years, but which the head curator has now taken up for a critical examination of the North and Middle American forms, a number of southern species were purchased. The genus *Brachylophus*, the only one of the American family Iguanidæ known to occur in the Old World, has not hitherto been represented in the collection. During last year, however, two specimens were received as a gift from the Department of Agriculture of Fiji, and another was obtained in exchange from the Museum of Comparative Zoölogy, together with two specimens of the singular west African "hairy" frog, *Astylosternus robustus*.

The substitution of glass-stoppered jars for the old style of salt-mouth bottles is still in progress, and the contents of several old tanks were also transferred to jars or made into dry preparations, notably the large turtles. The osteological material has been partly gone over and arranged in unit cases placed in the corridor adjacent to the laboratory. In furtherance of a study of the turtles of North and Middle America, begun by the head curator, it was found necessary to institute a separate series of cleaned turtle skulls, similar to the one in the division of mammals, and a number were prepared in that manner. This work will be pushed during the current year and promises results of great interest. The card cataloguing of the collection is progressing satisfactorily and the search for old types has been quite successful.

Since 1857, when Louis Agassiz published his Contributions to the Natural History of the United States, no scientific revision of the North American turtles has appeared in this country. More than 25 years ago the Museum arranged with Dr. G. Baur for the preparation of a volume on the Testudinata of North America, but the work was stopped by reason of his death, and the fragmentary state of the material left by him prevented its being finished by others. The urgent demand for such a publication has induced the head curator to undertake the task, the subject being treated somewhat on the plan of, and covering the same territory as, Ridgway's Birds of North and Middle America. The work was started about a year ago, and during the hours that could be spared from administrative duties he has made such progress that the volume may be expected to be ready in a year or two. The collections of the division were consulted by Dr. Thomas Barbour, of the Museum of Comparative Zoölogy; and Miss Stella Clemence, of the American Museum of Natural History; and specimens were lent for study to Dr. Alexander G. Ruthven, director of the Museum of Zoology of the University of Michigan; Dr. Shufeldt, of Washington; and Dr. Barbour.

Fishes.—The most important accessions came, as usual, from the Bureau of Fisheries. They represented the results of collecting work

and of expeditions to various localities, and included the types of many new species. The museum of Leland Stanford Junior University contributed a large number of desirable specimens, obtained in Japan and California by Dr. David S. Jordan, Prof. J. O. Snyder, and others; and Mr. Robert Tweedlie, of Balboa, Canal Zone, presented an especially fine collection, including the young of rare forms, from the Pacific side of the Isthmus of Panama. Many well preserved and interesting fishes were collected for the Museum at the Philippine Islands and in the inner lagoon of Fanning Island by Dr. Fred Baker, of Point Loma, Cal.; and at the Philippine Islands, by Dr. Albert M. Reese, of the University of West Virginia.

The general revision of the collections of this division, the need of which was alluded to in the last report, was begun during the year. As indicated in that connection, recent accessions had left the division with an accumulation of material the proper arrangement and disposition of which taxed to the utmost the energies of its small staff. The great danger to be apprehended in reducing the bulk of the collection, which could only be done by relieving it of all duplicates and condemning such material as was not suitable for further preservation, was that valuable specimens, even types, might be discarded unless the greatest care was exercised and the work undertaken by some one having a broad and thorough knowledge of the group. No other course was open than to obtain for this revision the services of an acknowledged expert in ichthyology who could give his entire time and energy to the task, unhampered by any routine duties. It was fortunately found possible to secure for this important work the cooperation of Prof. J. O. Snyder, of Leland Stanford Junior University, who arrived in Washington in the first part of January, 1914, and has labored unceasingly to place the collection in order. The specific direction of his work has been to determine whether any species was more abundantly represented in the collection than necessary, to cull out such specimens as were too poorly preserved to be of further use, and to separate such types and other especially valuable specimens as might be recognized. Beginning with the larger class of containers, he had by the close of the year examined the contents of more than 400 large storage jars, of which a considerable number of poorly preserved specimens were condemned, though some were saved for their skeletons, and many specimens were set aside as duplicates. Fifty or more types were segregated, and rare or otherwise exceptionally valuable specimens were placed in separate bottles. The revision of material belonging to 15 unassorted collections, the most of which had not yet been studied, was also completed. It was often found necessary to identify collections or to determine whether published investigations were based on particular specimens, which would make their

retention desirable. As soon as the large containers have been disposed of—and this has been nearly done—the examination of the smaller jars will be taken up. The work is expected to occupy several months of the current year, and is one of the most important of its kind that has been undertaken by the Museum.

Incidental to the reexamination of specimens and the search for types a considerable amount of research into the old literature on the subject of the collections was carried on by Prof. Snyder and Mr. B. A. Bean, the assistant curator. Mr. S. F. Hildebrand, of the Bureau of Fisheries, had the use of the Panama material in connection with the preparation of his report on the fishes of the Isthmus, and other members of the same bureau, especially Dr. William C. Kendall and Mr. L. Radcliffe, consulted the collections. Specimens were lent for study to Dr. Carl H. Eigenmann, of the Indiana State University; Dr. Louis Hussakof and Mr. J. T. Nichols, of the American Museum of Natural History; Mr. C. W. Shepherd, of Kensington, London; Dr. H. M. Smith, United States Commissioner of Fisheries; Prof. C. H. Gilbert and Prof. J. O. Snyder, of Leland Stanford Junior University; and Dr. S. E. Meek, of the Field Museum of Natural History.

Insects.—The deposits of insects by the Bureau of Entomology were exceptionally extensive and notable. The largest and most important was a collection made by the force of the bureau engaged in the investigation of southern field crops, and came chiefly from Texas. When received at the Museum it was contained in about 400 Schmitt boxes for the dried or pinned material and 1,000 large vials for the alcoholic material, the total number of specimens being estimated at approximately 200,000, about equally divided between the dried and alcoholic preparations. This is probably the best State collection ever brought together, although its full Museum value can scarcely be passed upon until more of the material has been determined and the results incorporated in the records. Other noteworthy accessions from the bureau consisted of some 5,500 specimens collected by its employees and others in various localities from the Bahama Islands and Florida to New Mexico, Arizona, California, and Alaska; and of the material used by Mr. P. H. Timberlake for his revision of the genus *Aphycus*. The latter comprised about 40 specimens of European weevils bred from alfalfa and 79 named reared specimens of the genus, including the types of three new species.

Of gifts from individuals may be noted 124 vials of parasitic Hymenoptera from Mr. J. P. Kryger; 240 chalcids from Prof. C. F. Baker; and several accessions from Mr. Frederick Knab, aggregating 1,457 specimens, mostly of Diptera, from the District of Columbia.

The transfer of specimens to the permanent trays made little progress, owing to a delay in the delivery of the trays ordered for the year's use, but much is expected to be accomplished in this direction during the current year. Preliminary to the preparation of a faunal collection to be added to the exhibition series for the District of Columbia, special efforts have been made to assemble as much local material as possible suitable for the purpose, and it is expected that a good representation of several orders will soon be ready for installation.

The associate curator of the division, Mr. J. C. Crawford, continued his studies of the Hymenoptera, and, in addition to several papers published, he completed a contribution on the bees of the genus *Coelioxys* in America north of Mexico. Of the material secured during the biological survey of the Panama Canal Zone a part was worked up during the year, and accounts of the Lepidoptera, by Dr. Harrison G. Dyar and Mr. August Busck, were issued. Mr. J. R. Malloch finished several papers on the Agromyzidæ and Simuliidæ, the titles of which and of other communications by custodians of the division will be found in the bibliography at the end of this report. Mr. William Schaus continued his work on the Lepidoptera assembled by himself and designated as the Schaus collection, and published one paper descriptive of several new genera and 136 new species of Noctuidæ, all but three of which were secured by himself and Mr. J. Barnes in Guiana. For nearly five months Dr. E. Martini, of Hamburg, Germany, made studies on the collection of mosquitoes, and for two months Mr. S. B. Fracker, of the University of Illinois, was at work on lepidopterous larvæ. Other entomologists who made investigations at the Museum were Mr. William T. Davis, of New Brighton, N. Y.; Prof. A. L. Melander, of Pullman, Wash.; Mr. C. P. Alexander and Mr. Harold Morrison, of Cornell University; and Mr. L. H. Weld, of Evanston, Ill. Material was lent for study as follows: Neuroptera to Mr. L. Berland, of the Muséum d'Histoire Naturelle, Paris, France; Orthoptera to Mr. Morgan Hebard, of the Academy of Natural Sciences of Philadelphia; Hymenoptera to Dr. W. M. Wheeler, of Harvard University, Mr. P. H. Timberlake, of Salt Lake City, Utah, Mr. Harold Morrison and Mr. William Beutenmüller, of New York; Coleoptera to Mr. A. B. Wolcott, of the Field Museum of Natural History, Mr. R. D. Glasgow, of Urbana, Ill., and Mr. H. E. Burke, of Placerville, Cal.; Diptera to Mr. A. L. Melander, Prof. James S. Hine, of the Ohio State University, Dr. E. P. Felt, of Albany, N. Y., Prof. J. M. Aldrich, of Lafayette, Ind., Mr. R. R. Parker, of the Massachusetts Agricultural College, Mr. C. P. Alexander and Mr. Charles Schaeffer, of the Brooklyn Institute of Arts and Sciences; Hemiptera to Dr. E. Bergroth, of Turtola, Finland; and Arachnida to Prof. C. W. Peckham, of Milwaukee, Wis.

Mollusks.—The accession of greatest moment was the gift by Mr. Thomas H. Bryant, of Cincinnati, of the collection of the late Prof. F. W. Bryant, of Lakeside, Cal., consisting of five cases of miscellaneous shells of which a large number were desirable for the reserve series. A contribution of about 2,000 specimens was received as the results of a dredging expedition by Mr. John B. Henderson, to Chincoteague, Va., in which the assistant curator, Dr. Paul Bartsch, also took part. Several of the species obtained are apparently new. A miscellaneous lot of marine shells, mostly from the Gulf of California, presented by Mrs. Julian James, consists of material obtained by her brother, the late Lieut. Commander T. B. M. Mason, United States Navy. A collection of minute marine shells of considerable interest from the island of Mujeres, off the coast of Yucatan, was donated by Mr. Russell H. Millward; and a fine series of nearly 1,000 specimens of *Bulimulus* from 43 localities in Texas, was presented by the Hon. J. D. Mitchell, of Victoria, Tex., an old friend and correspondent of the Museum. Mr. Charles R. Orcutt added to the collections previously sent by him from various places in Mexico about 500 specimens of very acceptable mollusks; Mrs. T. S. Oldroyd furnished some excellent Californian marine specimens from the vicinity of San Pedro; and Mr. James Zetek presented interesting specimens from Panama.

The reserve collection has been kept in good condition and is readily accessible for study and reference. The western American marine material has been partly gone over, recent acquisitions have been incorporated in their proper places and the nomenclature has been so far revised as to present the latest data for about one-fifth of the entire series from the Pacific coast. A very large amount of fine dredgings, bottom samples, etc., has been searched for minute shells, and the pickings have been submitted to rough sorting and labeled with the locality and other data preparatory to further study and identification. Part of this material came from Philippine dredgings by the Fisheries steamer *Albatross* and part from the Gulf of California. The series of mollusks for the faunal exhibit of the District of Columbia was completed, and the assistant curator also gave much time to the preparation and arrangement of marine invertebrates for the general exhibition.

The special investigations of the curator, Dr. William H. Dall, were directed to the fauna of the northwest coast of America preliminary to a manual of this fauna which he is preparing, but on which progress has been slow, owing to the pressure of routine work. A small collection of shells made on both coasts of Canada was studied and a report made to the Dominion Geological and Natural History Survey, which has been printed in the Bulletin of the Victoria Memorial Museum at Ottawa. Dr. Paul Bartsch, the assistant

curator, has given much attention to the Philippine land shells, for which a large number of illustrations have been prepared by photography. He has completed, with the illustrations, the report on the marine shells of South Africa, chiefly contributed by Lieut. Col. W. H. Turton, retired, of the British Army, except certain bibliographic additions which it is desirable to include. The collections have been extensively used by Mr. John B. Henderson, of Washington, who is continuing his studies of east American and Antillean mollusks. Miss Julia Gardner, of Johns Hopkins University, and members of the Geological Survey have also utilized the collections in connection with their studies of fossil shells.

Marine invertebrates.—The principal accessions from the Bureau of Fisheries were as follows: One hundred and sixty-two lots of ascidians, including the types of 8 new species, obtained on the Philippine expedition of the steamer *Albatross*, 1907–1910, and worked up by Dr. W. G. Van Name; large collections of plankton taken by the schooner *Grampus* on the New England coast during the summers of 1912 and 1913, including schizopods identified by Dr. H. J. Hansen, salpæ identified by Mr. W. F. Clapp, and Medusæ, amphipods, etc., identified by Dr. H. B. Bigelow; 36 lots of Foraminifera (Xenophyophora) dredged in the eastern Pacific Ocean in 1904–1905 by the steamer *Albatross* under the direction of Alexander Agassiz and reported on by Prof. F. E. Schulze; a collection of leeches made during the investigation of the Great Lakes in 1899, and studied by Dr. J. Percy Moore; and many samples of plankton and specimens of invertebrates collected in Lake Maxinkuckee, Ind., during several years, under the supervision of Dr. B. W. Evermann.

Mr. H. K. Harring, custodian of the rotatoria, contributed 103 microscopic slides representing almost as many species of rotifers, from the District of Columbia and vicinity; and Dr. Albert M. Reese, of the University of West Virginia, obtained a large number of invertebrates for the Museum during his trip to the Philippine Islands. Forty species of invertebrates were received in exchange from the University of the Philippines at Manila, and 16 species of ascidians, identified by Dr. R. Hartmeyer, were secured in the same manner from the Royal Zoological Museum in Berlin, Germany. The Department of Agriculture and Technical Instruction (Fisheries Branch), Dublin, Ireland, presented 16 species of deep-water echinoderms from off the Irish coast.

The routine work connected with the care, sorting, labeling, and cataloguing of the extensive and varied material received was promptly attended to and much time was spent in the preparation and shipment of specimens for study elsewhere and for distribution to educational establishments. The alcoholic and dried collections of sponges and ophiurans, and the dried collections of asteroids,

echinoids, alcyonarians, and hydroids were overhauled, the nomenclature revised, fresh labels put on the outside of jars and boxes, and a systematic arrangement made. At the same time the card catalogue of these groups was brought up to date. Miss Rathbun also cooperated with Dr. Bartsch in the preparation and arrangement of the marine faunal exhibits, in which good progress was made.

The helminthological collection, which had been retained in the Smithsonian building, was moved in the spring to the new building, where the alcoholic specimens have been arranged in two cases in the stack room and the microscopic slides in the adjacent corridor. Better accommodations for the latter and laboratory facilities for this section are intended to be provided. The collection of onychophores was transferred to this division from the division of insects. It now contains representatives of four genera and seven species, including the type of a new subspecies. The four microscopic slide cases in the division have been almost entirely filled with Foraminifera mainly of the mountings of North Pacific specimens by Dr. Joseph A. Cushman, who has been making rapid progress in this work. The other microscopic slides are now provisionally arranged in a large unit case, awaiting better accommodations for their storage.

Miss Mary J. Rathbun, assistant curator, completed a report on the decapod and stomatopod crustaceans collected at the Monte Bello Islands, off the northwest coast of Australia, by Mr. P. D. Montague, of Cambridge, England, which is being published in the Proceedings of the Zoological Society of London. She also worked up the crabs of the families Goneplacidae and Gecarcinidae from the expedition of the Fisheries steamer *Albatross* to the Philippine Islands in 1907-1910, and in a preliminary paper, printed in the Proceedings of the Museum, the new species of the former family were described. All of the unidentified specimens of these families in the possession of the Museum were likewise named at the same time, and the family Inachidae is now receiving attention.

Mr. Austin H. Clark, assistant curator, prepared a number of papers of greater or less size, as follows: A monograph of the crinoids of the Antarctic regions, to be included in the reports of the German South-Polar Expedition; a monograph of the crinoids of China and Japan, based on the collections of Prof. Dr. Franz Doflein, of Freiburg, which will probably be published by the Bavarian Academy of Sciences; a report on the crinoids collected by the Australian marine surveying ship *Endeavour* off southwestern Australia, to be published by the Western Australian Museum at Perth; and a detailed account of the crinoids of the British Museum. Mr. Clark was also the author of several shorter papers describing small crinoid collections or revising restricted crinoid

groups, and of others in which the facts obtained from a study of the recent crinoids are applied toward the solution of problems especially in paleontology and oceanography. He likewise devoted some time to the study of the onychophores and their geographical distribution.

Dr. Harriet Richardson Searle, collaborator, reported on the isopod crustaceans obtained by the Fisheries steamer *Albatross* under the direction of Alexander Agassiz, during the Pacific Ocean cruises of 1899-1900 and 1904-1905. Mr. Clarence R. Shoemaker, aid, prepared an annotated list of the amphipod crustaceans collected in south Georgia by Mr. R. C. Murphy, and has begun work on the amphipods of the east coast of the United States. Miss Lilian C. Cash, cataloguer, gave some attention to the alcyonarians, preparing a series of 175 microscopic mounts of spicules, and beginning the identification of the species in certain groups. Mr. H. K. Harring, of the Bureau of Standards, devoted his spare time to the study of rotifers, including the mounting of a large number of slides for the Museum, and completed a report on the material obtained in the Panama Canal Zone by Dr. C. Dwight Marsh.

Much research work was done for the division during the year by distinguished naturalists, both at home and abroad, who are recognized as collaborators in the classification of the collections. Some of the more important results were as follows: Dr. H. J. Hansen, of Copenhagen, Denmark, completed his monograph of the Euphausiacea; and Dr. Joseph A. Cushman, of the Boston Society of Natural History, the fourth part of his monograph of the North Pacific Foraminifera, including the Chilostomellidæ, Globigerinidæ and Nummulitidæ, the fifth part, embracing the Rotalidæ, being also nearly ready. Dr. H. A. Pilsbry, of the Academy of Natural Sciences of Philadelphia, has nearly finished his studies on the sessile Cirripedia; Dr. Charles B. Wilson, of the State Normal School, Westfield, Mass., submitted another of his monographs on the parasitic copepods, dealing with the family Lernæopodidæ; and Prof. C. C. Nutting, of the State University of Iowa, completed the third part of his monograph on hydroids. Prof. A. E. Verrill, of Yale University, in his report on the starfishes of the Harriman Alaska Expedition, recently published by the Smithsonian Institution, described a small collection lent him by the Museum; Prof. Frank Smith, of the University of Illinois, continued his study of earthworms, especially those from America and British East Africa; Dr. R. Koehler, of Lyon, France, has undertaken to report upon the large collection of Philippine ophiurans obtained chiefly by the steamer *Albatross* in 1907-1910; and Dr. N. A. Cobb, of the Department of Agriculture, has taken up the study of a small collection of non-parasitic nematodes.

The following have continued work on collections in their custody as opportunity permitted: Dr. R. C. Osburn, of Barnard College, on the bryozoans of the northeast coast of North America; Dr. W. M. Tattersall, of the Manchester Museum, England, on the Mysidacea; Mr. R. Southern, of Dublin, Ireland, on the annelids of the family Cirratulidæ; Dr. J. W. Spengel, of Giessen, Germany, on *Sipunculus*; Prof. Maynard M. Metcalf, of Oberlin College, on *Salpa* and *Pyrosoma*; and Dr. Walter Faxon, of the Museum of Comparative Zoölogy, on crayfishes. Specimens have been lent for study to Prof. H. Garman, of the State University of Kentucky; Miss Ada L. Weckel, of Oak Park, Ill.; Mr. Stanley Kemp, of the Indian Museum, Calcutta; and Mr. F. C. Craighead, of Washington.

Plants.—Among the accessions of the year were several of exceptional value, the more noteworthy being as follows: Over 10,000 specimens were received from the Bureau of Plant Industry and the Biological Survey, of the Department of Agriculture, comprising, besides 1,500 miscellaneous plants, more than 1,200 mounted grasses, collected by Prof. A. S. Hitchcock during an investigation of this group in Nevada, California, Utah, and Arizona, and also 6,000 duplicate grasses, consisting of 30 sets of 200 specimens each of certain species which have been critically studied by Prof. Hitchcock and Mrs. Agnes Chase in recent years, and of which it has been considered desirable to distribute authentic specimens. The New York Botanical Garden furnished 3,555 plants in exchange, of which 562 were African specimens from the Otto Kuntze Herbarium, and the remainder entirely from the West Indies, supplementing very acceptably the large series acquired from the same source in recent years, and resulting from investigations by that institution. Some 1,580 Chinese plants, representing a second installment of one of the largest sets of the exceedingly valuable collections made by Mr. E. H. Wilson, were purchased of Prof. C. S. Sargent.

A notable collection of cryptogams, numbering about 10,000 specimens, largely obtained by the late Mr. John B. Leiberger while engaged in field work in the western United States, was received as a gift from Mrs. Leiberger, of Leaburg, Oreg. It contains many duplicates which will be available for distribution as soon as the species have been fully identified. An important addition from a region not well represented in the herbarium consisted of 1,100 plants from Venezuela, of which 300, chiefly from the high mountains of that country, were purchased of Mr. Alfredo Jahn, Caracas, while the remainder, presented by Mr. H. Pittier, were secured by him in the course of an investigation of the agricultural resources of Venezuela. From the Bureau of Science at Manila 1,746 specimens were obtained in exchange, nearly 1,000 of these having come from Guam, and being duplicates of material which had served as the basis of an extensive report on the flora

of that island by Mr. E. D. Merrill. Other collections worthy of mention were 2,000 specimens from the arid regions of Colorado, New Mexico, and Texas, contributed by the Carnegie Institution of Washington; 740 specimens from the mountains of North Carolina, obtained by Mr. Paul C. Standley and Mr. H. C. Bollman; 1,075 plants of the Henry Eggert Herbarium, largely from the south-central United States, received in exchange from the Missouri Botanical Garden; and 940 specimens, chiefly from Idaho, from the University of Wyoming.

Approximately 33,000 specimens were mounted for the general herbarium, which is much above the yearly average, and at the close of the year few remained to be prepared in this way. In other respects also the work of the division was well advanced and the collections were reported in excellent condition. By the employment of two extra assistants, an accumulation of about 50,000 mounted specimens of phanerogams was appropriately distributed in the cases and nearly one-half of the phanerogamic collection was rearranged, a considerable proportion of the specimens being likewise put in new covers. This revision will go on until it has been completed for the entire group.

As opportunity permitted, Mr. Standley continued the segregation of types and duplicate types from the study series. This work, which may be said to have progressed steadily for more than a year, has led to the assembling of upward of 7,000 specimens. Each type, after being plainly indicated as such, is placed in an individual cover of heavy manila tag board, with a distinctive label on which is written not only the generic and specific name but also the serial number of the genus according to the classification of Dalla Torre and Harms. The type specimens thus far removed from the general herbarium sequence have been associated in eight standard cases, placed conveniently near the offices of the assistant curators, so as to be easily cared for and still be available for consultation by investigators. The probational appointment of Mr. Glen P. Van Eseltine as aid has made it possible to carry out a plan long held in abeyance to place the cryptogamic collections in better order. During the past five or six years a large amount of material has accumulated in nearly all groups of the lower cryptogams, and although a part of this is in shape for immediate incorporation in the reserve series the greater part remains to be attended to, and the proper pocketing, labeling, and distribution involves much time and labor. The herbarium has been thoroughly poisoned by carbon bisulphide twice during the year. Only a few insects have been observed, and in no instance has any special damage been caused by them.

Mr. Frederick V. Coville, the curator of the division, continued his studies of the genus *Vaccinium*. Mr. William R. Maxon, associate curator, made considerable progress with his "Studies of tropical American ferns," and, in addition to two shorter articles, published a fifth paper under the above title. Copy for No. 6 of this series is now ready for the press. Mr. Paul C. Standley, assistant curator, continued his researches on Panama plants, especially of the family Rubiaceae, and began the preparation of a manuscript treating of the families Chenopodiaceae and Amaranthaceae of the North American flora. He plans also to publish a series of papers embodying the miscellaneous results of his work under the title, "Studies of tropical American phanerogams," of which part 1 appeared during the year. "The flora of New Mexico," prepared jointly with Mr. E. O. Wooton, of the Department of Agriculture, has been submitted for publication in its revised form and will constitute volume 19 of the Contributions from the National Herbarium. Mr. E. S. Steele devoted to the study of the genus *Laciniaria* such time as was not required for his editorial duties.

Dr. J. N. Rose, associate in botany, proceeded with his researches on the family Cactaceae under the auspices of the Carnegie Institution of Washington, his furlough from the National Museum having been extended for that purpose. Dr. E. L. Greene, associate in botany, has been engaged on part 2 of "Botanical Landmarks," and, in addition, was the author of two short papers on various species of American plants. Capt. John Donnell Smith, associate in botany, continued his investigations of previous years on the flora of Central America and published several papers describing new species from that region.

Among the botanists who worked in the herbarium for longer or shorter periods were Dr. C. H. Ostenfeld, of the Botanical Museum in Copenhagen, Denmark; Dr. N. L. Britton, director of the New York Botanical Garden, and Dr. P. A. Rydberg and Dr. J. K. Small, of the same institution; Prof. H. M. Hall and Mrs. Katherine Brandegee, of the University of California; Prof. Aven Nelson, of the University of Wyoming; Prof. Ezra Brainerd, of Middlebury College; and Prof. William Trelease, of the University of Illinois. The herbarium was also, as usual, constantly made use of by the botanists of the Department of Agriculture.

The number of specimens lent to institutions and individuals for study was above the average. Much of the material thus sent out was undetermined, and the Museum therefore became the chief, if not the only, beneficiary in many of the transactions. The principal shipments were as follows: A large number of plants of many groups to the New York Botanical Garden; numerous specimens from Central America to Capt. John Donnell Smith, of Baltimore, Md.; fungi

from New Mexico to Prof. J. C. Arthur, of Purdue University; lichens of the genus *Ramalina* to Dr. R. H. Howe, of Concord, Mass.; tropical American plants to the Royal Botanical Garden and Museum, Berlin, Germany; specimens of Solanaceae to Dr. Georg Bitter, Bremen, Germany; a large series of *Dryopteris* for study by Mr. Carl Christensen in connection with his extended monograph of the tropical American species of the genus, to the Botanical Museum of the University, Copenhagen, Denmark; lichens, mainly from Australia and New Zealand, to Mr. G. K. Merrill, Rockland, Me.; specimens of Chamaesyce, for study by Dr. C. F. Millspaugh, to the Field Museum of Natural History; and specimens of *Xanthium*, for study by Dr. T. J. Widder, and of tropical American Gesneriaceae, mainly from Panama, for study by Dr. K. Fritsch, to the Institute for Systematic Botany, Graz, Austria.

Work of preparators.—Having previously completed, so far as the material permitted, the principal new and prominent features for the exhibition series, especially of mammals and birds, the preparators were mainly occupied during last year in mounting smaller specimens and in renewing and improving the specimens from the older collections, which had to a large extent been installed in the new building without waiting for the renovation which their condition demanded. The collection still contains much material which should be replaced when better specimens can be obtained, and until this is done the exhibition as a whole must be regarded as below the proper standard. The work which this involves, although not as spectacular as the building of large groups, is as important from the museum standpoint and as necessary for the lessons designed to be illustrated.

Mr. George B. Turner, chief taxidermist, and his assistant, Mr. William L. Brown, finished the mounting of the reticulated giraffe, which is an especially effective piece of taxidermy, and also of the giant eland and the greater koodoo, both from East Africa, as well as of a specimen of the fallow deer, a common European species not hitherto represented in the exhibition halls. A fine specimen of the rare Père David deer, *Elaphurus davidianus*, from China, was also in course of preparation at the end of the year.

Mr. N. R. Wood, the bird taxidermist, mounted for exhibition 74 skins, mostly of African birds, including the 5 chicks of the ostrich group and 11 fresh skins. He also remounted 30 specimens and renovated or changed to other pedestals 22 specimens. Mr. George Marshall was mainly engaged in mounting small mammals, in which the exhibition series is exceedingly deficient except in the North American section.

The work done in the osteological laboratory under Mr. J. W. Scollick consisted in cleaning 938 mammal skulls, besides skeletons

and separate bones of mammals, birds, and reptiles to the number of 577. Mr. C. E. Mirguet renovated the okapi skeleton for exhibition and was employed in much other preparatorial work, including the making of a cast of a gorilla skull for the division of physical anthropology. Mr. William Palmer was mainly occupied with the arrangement of the faunal exhibit of the District of Columbia, the exhibition series of insects, and the synoptic series, though he was called upon for much special work in other directions.

Exhibition collections.—Two additional alcoves assigned to topical exhibits were opened to the public. They are devoted to the "architecture" of mammals and birds, and the eggs of birds. Most conspicuous is a large central floor case in which is displayed the enormous nest of the wood rat with its inhabitants, while models and illustrations of the burrows of other mammals and of birds are shown in cases against the wall. The birds' eggs are mainly arranged in three table-top cases.

No mammal groups were constructed, but several specimens mounted separately were added to the series. Foremost among these was the reticulated giraffe, a fine example, which, being placed alongside the common form, gives excellent opportunity for observing the differences between the two. Other large species installed were the giant eland and the greater koodoo from Africa and the fallow deer from Europe. Many small mammals other than North American were also introduced in various faunas, which have hitherto been very deficient in this respect. The enlarged models of bats' heads, referred to in the last report, were finally completed and placed on exhibition.

The only large group added during the year represents a family of African ostriches near its nest. It occupies a case of the same size as that of the lion group, is placed near the outer end of the main hall between the African mammals and the bird series, and consists of a pair of adult birds in fine plumage with five chicks. Remnants of the eggs from which the chicks have just emerged and a couple of unhatched eggs are lying on the ground in and near the nest. This forms a very attractive exhibit, is much the finest bird group in the Museum, and is on a par with the best of the mammal groups. It was designed and built by Mr. James L. Clark, of New York, who also mounted the old birds, the young ones being prepared by Mr. Nelson R. Wood of the Museum staff. The material was from the Smithsonian African Expedition. Another bird group placed on exhibition in the African fauna represents the hoatzin. It was constructed for and displayed at the St. Louis exposition of 1904, but remained in storage until recently when it was taken out, completely rebuilt, and greatly improved by Mr. William Palmer. The exhibit is highly interesting in showing the nestling hoatzins climbing

among the branches of the trees by means of the clawed digits of their wings. The transfer to new cases of the other bird groups mentioned in previous reports was completed. Of individual birds a considerable number, mostly African, were prepared and installed. The case containing the tropical humming birds was entirely rearranged, and neat brass holders were introduced for supporting the specimens, thereby greatly improving the appearance of the series.

There were several important additions of reptiles and fishes. One was an American crocodile, 13 feet long, from the older collection, but entirely made over and placed in excellent condition by Mr. C. E. Mirguet. The series of casts of fishes was somewhat increased, but the most novel and attractive exhibit introduced consisted of tropical fishes painted in their natural colors and displayed in alcohol in flat-faced jars. It occupies two cases and, while the method of preparation is still to some extent experimental, it is believed to be fairly permanent. Two further sections of the exhibition of marine invertebrates, one representing the littoral fauna from Cape Cod to Cape Hatteras, the other the characteristic forms of the Floridian fauna, beginning with Cape Hatteras, were opened to the public; and many specimens for other faunas, especially of crustaceans, were selected, colored, and mounted.

The series of reptilian and batrachian skeletons was somewhat increased and the latter were entirely rearranged. The synoptic series was also partly revised, and the insect collection was transferred to new cases. Many additions were made to the faunal exhibition of the District of Columbia, including a complete series of all the land and fresh-water shells of the District, which are installed in a sloping-top table case so constructed that even the smallest specimens can be examined under an ordinary hand magnifying glass through the glass cover of the case.

The division of plants has for the first time been represented to the public by an exhibition of flower studies in water color, selected from a series of about 600 sketches by the late Miss Adelia Gates, recently presented by Miss Eleanor Lewis, her niece, and by others to whom they had been given by the artist during her life. The display, which has been installed in the same hall as the marine invertebrates, embraces a wide range of domestic and foreign plants as well as cultivated varieties.

Explorations.—No biological expeditions were sent out by the Museum during the year, but several field parties not connected with it were supplied with outfits or assisted in other ways, and material of considerable interest has been received in return. The principal explorations by which the collections have been benefited were conducted by other scientific bureaus of the Government, though the Museum is also greatly indebted to several individuals who have

given generous support to field work, mainly, if not wholly, in its interest.

Dr. W. L. Abbott, an associate of the Museum, continued his own explorations in the Himalayas, besides maintaining Mr. H. C. Raven in Dutch East Borneo, where, as elsewhere explained, he has been making large and valuable collections. Dr. Abbott recently sent Mr. Raven to the island of Celebes on a similar mission, and has placed at the disposition of the Institution sufficient funds to keep him in the field for another year. In July, 1913, Mr. John B. Henderson, a Regent of the Smithsonian Institution, made a dredging trip to the waters around Chincoteague Island, Va., taking with him as a guest Dr. Paul Bartsch, assistant curator of mollusks. They secured a large quantity of material, including several new mollusks. During May and a part of June, 1914, Mr. Henderson undertook a much more elaborate expedition to the region off the northwestern coast of Cuba, having chartered a fishing vessel and well equipped it for the purpose. By his kind invitation, Dr. Bartsch was again able to join in the work, his special mission being to collect and make special preparations of marine invertebrates needed for the West Indian fauna in the exhibition series. The party also included Mr. G. W. Gill, who was charged with reproducing the natural colors of specimens for the exhibits. The exploration was entirely successful, and its results, liberally shared with the Museum, consisted of both invertebrates and fishes secured by extensive dredging, towing, and shore collecting. Many specimens of land animals were also collected during occasional visits on shore.

With Dr. Alfred G. Mayer, director of the Marine Biological Laboratory of the Carnegie Institution, Dr. Bartsch again visited, during the latter part of April, the Bahama *Cerion* plantations on the Florida Keys, of which accounts were given in the last two reports. These transplantations of large numbers of two races of Bahama shells of the genus *Cerion* were undertaken to ascertain the effect of their transference to a new environment. During this year's examination the adults of the first generation were found, and most interesting results are reported regarding the changes which these present as compared with the material introduced. A trip made by Dr. J. N. Rose, as a research assistant of the Carnegie Institution of Washington, through portions of Colorado, New Mexico, and Texas, was productive of a large and valuable collection of Cactaceae and also of other groups of plants, a large proportion of which will be deposited in the Museum. Mr. G. S. Miller, jr., curator of mammals, spent part of his vacation, during February, 1914, at Biloxi, Miss., where he secured many interesting specimens. Other members of the staff on short trips have also added material to the collection, a large number of plants and some crayfishes hav-

ing been obtained by Mr. Paul C. Standley and Mr. H. C. Bollman in North Carolina, and a collection of marine invertebrates from Plum Point, Md., having been contributed by Mr. William Palmer.

Mr. Arthur de C. Sowerby continued his field work in Manchuria and northeastern China, sending two lots of mammals, only one of which was received within the year. In the course of anthropological investigations in northern Zululand, conducted under the direction of Dr. Aleš Hrdlička in the joint interest of the Smithsonian Institution and the Panama-California Exposition, Dr. V. Schüick obtained the skeleton of a black rhinoceros and formalin preparations of several important carnivores, rodents, primates, and reptiles. Dr. Albert M. Reese, of the University of West Virginia, visited the Philippine Islands as a temporary collaborator of the Museum and secured for its collections many specimens of reptiles, batrachians, fishes, and marine invertebrates. Dr. Fred Baker, of Point Loma, Cal., also made a trip, which is still unfinished, to Oceania and the Orient, largely for the benefit of the Museum, and has already sent in a considerable amount of noteworthy material, especially fishes, from Fanning Island and the Philippines. Mr. H. Pittier, of the Department of Agriculture, while on furlough and conducting an investigation of the resources of Venezuela, made an extensive collection of the plants of that country, which he generously presented to the Museum.

Of Government explorations there were three which merit notice in this connection because of the immediate returns secured. One was the oceanographic cruise of the Fisheries schooner *Grampus* off the New England coast during July and August, 1913, in cooperation with the Museum of Comparative Zoölogy, the work being in charge of Dr. Henry B. Bigelow of that institution. Large collections of plankton were made from which many specimens of several groups have been transferred to the Museum. Prof. A. S. Hitchcock and Mrs. Agnes Chase, both of the Department of Agriculture, conducted extensive investigations with special reference to grasses, the former in southern California, Arizona, Utah, and Nevada, the latter in Porto Rico. Besides grasses, of which a large number were obtained, many other plants were secured in both regions, and the entire results have been deposited in the Museum. Prof. Hitchcock had with him as assistant his son, Mr. A. E. Hitchcock, who attended to the miscellaneous collecting.

DEPARTMENT OF GEOLOGY.

The total number of accessions pertaining to this department was 199, with an aggregate of 16,693 specimens, which were assigned to the several divisions and sections, as follows: Systematic and applied geology, 775; mineralogy and petrology, 2,873; invertebrate

paleontology, 11,041; vertebrate paleontology, 1,430; and paleobotany, 574. There were also received for examination and report 546 lots of specimens, of which 217 were geological, 280 mineralogical, and 49 fossils, and it is interesting to note that in the material sent for this purpose there has been a great increase in the proportional amount supposed to contain radioactive minerals. While the Museum has not the means for making detailed analyses of specimens, simple determinations are generally sufficient to decide their nature and general value and of all of the specimens received in this connection during last year only 27 were of any interest either to science or to the Museum.

Systematic and applied geology.—The Royal Ontario Museum of Mineralogy, of Toronto, Canada, transmitted as an exchange a series of rocks and ores illustrating the geology and petrology of the Sudbury nickel region and the Cobalt mining district, including some exceptionally good exhibition examples of native silver in gangue and of nickel-cobalt minerals. The American Vanadium Co., of Pittsburgh, Pa., presented a suite of the recently described Peruvian minerals quisqueite, patronite, and other forms. A gift from the Mason Valley Mines Co., of Mason, Nev., through Mr. Victor C. Heikes, consisted of a large specimen of native copper, weighing some 200 pounds and forming an attractive addition to the recently installed exhibition of this metal. Two sections of the trunk of a fossil tree impregnated with carnotite, quite unusual in character and important for display, were obtained from Grand Junction, Colo., by purchase. Also worthy of mention are the following gifts: From Mr. Charles H. Hussey, Mr. M. S. Duffield, and Mr. F. L. Woods, of Ogden, Utah, a piece of a 6-inch quartz vein, weighing over 100 pounds and containing an abundant development of blade-like crystals of tungsten ore; and from the Maine Feldspar Co., of Brunswick, Me., large specimens of pegmatite well illustrating the phenomenon of graphic intergrowth of quartz and feldspar, and many hand specimens of feldspar of the grade used in the manufacture of pottery.

Among the additions to the building stone exhibit were a slab of dark Mohegan granite, measuring 32 by 32 by 3 inches thick, and two 5-inch cubes, from Peekskill, N. Y., presented by the Mohegan Granite Co.; and two large slabs, measuring 78 by 20 inches, of "Mar Villa" marble from the quarries of the Beaver Dam Marble Co., at Cockeysville, Md. A number of slabs of marbles which had been submitted in connection with the competition for the Lincoln Memorial in Washington were contributed by the Amicalola Marble Co., of Ball Ground, Ga.; the Lee Marble Works, of Lee, Mass.; Wm. Bradley & Son, of Long Island City, N. Y.; the Colorado Yule

Marble Co., of Marble, Colo.; and the Beaver Dam Marble Co., of Baltimore, Md.

Important material for the meteorite collection, obtained by gift and purchase from Mrs. Coonley Ward, included a fine exhibition slab, weighing 12 pounds, of the Estacado, Tex., meteoric stone, and good exhibition examples of the Pultusk, Knyahinya, Gilgoi, Alfianello, Mocs, Canyon City, and Descubridora falls. Specimens of the Deep Springs, Hammond, Vigarano, Mount Browne, and Mount Dyrring meteorites were also acquired through exchange.

The routine work of the year, aside from that connected with the exhibits, consisted, as usual, in the assorting, labeling, recording, and care of specimens. Much time was spent, however, in sorting out, labeling, and packing duplicate material for distribution to educational institutions, and so thoroughly was this done that no further systematic sets can be put up at present. Requiring the careful identification of every specimen used, the amount of labor involved in this work is much greater than is generally supposed. Two series were prepared, one comprising 100 sets of 85 specimens each of minerals and ores, the other 17 sets of 74 specimens each of minerals, rocks, and ores.

The head curator, Dr. George P. Merrill, continued the work begun in 1910, under a grant from the National Academy of Sciences, on the minor constituents of meteorites, and incidentally prepared a manuscript for an illustrated and descriptive catalogue of the Museum meteorite collection. The tests on the relative solubility of the various kinds of building stones, mentioned in last year's report, are approaching completion.

Mineralogy and petrology.—The most important accession, received from Mr. Walter M. Chandler, of Washington, consisted of 50 mineral specimens, including exceptionally good examples of wulfenite, crocoite, natrochalcite, and chalcantite, obtained in exchange, besides an excellent specimen of malachite from northern Rhodesia and a boulder from Roberts Victor Diamond Mine, Orange River Colony, South Africa, which were presented. Mr. Clarence S. Bement, of Philadelphia, Pa., contributed six unusually fine specimens of benitoite, neptunite, maucherite, semseyite, and whewellite, and a rare form of fluorite. Fifteen minerals, mostly new and rare, and of special value for the reserve series, were received from Dr. F. Krantz, of Bonn, Germany, in exchange, and a fine large crystal of topaz from Texas was purchased.

Among the additional gifts were three fine specimens of cuprodesclozite, the type material of a variety recently described by Dr. R. C. Wells, of the Geological Survey, received from Mr. Philip D. Wilson, of Bisbee, Ariz.; a large specimen of hodgkinsonite, the type of this lately defined species, received from Mr. H. H. Hodgkinson,

of Franklin Furnace, N. J.; examples of the rare earths torbernite, autunite, carnotite, davidite, tyuyamunite, and cyrtolite, from various localities, all of which are especially desirable in the present condition of our knowledge regarding radioactivity, received from Mr. Frank L. Hess, of the Geological Survey; 11 specimens of native copper from Mexico, and 9 specimens of carnotite from Mauch Chunk, Pa., received from Lehigh University; one of the few, possibly three, known specimens of the mineral sulphohalite, from Dr. Samuel P. Sadtler, of Philadelphia, Pa.; an unusually large specimen of pollucite from Maine, from Mr. P. S. Dudley, of Buckfield, Me.; a large mass of carnotite on davidite, from Mr. F. J. Spence, of Adelaide, Australia; two specimens of ferberite, with chrysocolla, and a new copper tungstate in pegmatite, from Mr. S. H. Brockunier, of Nevada City, Cal.; a large mass of crystallized vivianite, from Mr. Charles Brown and Mr. John Pearson, of Dent, Idaho; and a stalactite coated with calcite and malachite crystals, an attractive exhibition specimen, from Mr. W. P. Jennings, of Salt Lake City, Utah. The type specimens of inyoite and meyerhofferite, and a large crystal of bloedite, all recently described by Dr. Schaller, were deposited by the Geological Survey; and 14 good exhibition specimens of pyrite and tetrahedrite were secured in exchange from the Deseret Museum at Salt Lake City, Utah.

All of the important accessions in petrology were received from the Geological Survey. They consisted of the usual quadrangle series from the following districts, namely, Eastport, Me.; Colorado Springs, Colo.; Philipsburg and Butte, Mont.; Tacoma, Wash.; Deming, N. Mex.; Santa Cruz, Cal.; and Ellijay, N. C.; besides a collection illustrating Bulletin 492 of the Geological Survey, entitled "The gabbros and associated rocks of Preston, Conn.," and a series of rocks collected by Mr. Whitman Cross at the Hawaiian Islands in 1902, and yet to be described.

Mr. Edgar T. Wherry, assistant curator of the division, who came to the Museum only at the beginning of the year, has had very little time for research work, having been mainly occupied with routine duties. He prepared one brief paper for publication and gave critical consideration to the nomenclature of minerals and the correct stating of mineral localities, with the view of standardizing the labeling of the collections. The assembling and preparation of an exhibition series of radioactive minerals also engaged his attention.

Invertebrate paleontology.—The Smithsonian Institution deposited about 150 type specimens of Cambrian fossils figured by Secretary Walcott in volume 57, Nos. 9 and 13, of the Smithsonian Miscellaneous Collections, and about 5,000 specimens of the unexcelled Middle Cambrian fossils from the Burgess shale of British Columbia,

collected by the Secretary, which, though containing no types, are most valuable as additions to the reserve and exhibition series. A second important lot of types, consisting of 150 specimens of Silurian Bryozoa and Ostracoda, was the result of a study, by the curator of the division, of the Yale University collections from the island of Anticosti, and were presented in the name of the Peabody Museum of Natural History. Still another series of types, represented by 25 specimens of *Exogyra*, described and figured by Mr. L. W. Stephenson in Professional Paper No. 81, of the Geological Survey, was deposited by the Survey. Other accessions from the Survey included a collection of Carboniferous invertebrates from the Manzano group of New Mexico, described by Dr. George H. Girty in Survey Bulletin 389; a single specimen, deserving mention from the fact that it is a figured echinoid from the Miocene of California; and some 30 slabs of shale containing numerous well-preserved fossil insects obtained in the Green River formation of eastern Utah by Mr. E. G. Woodruff.

About 3,000 specimens of Paleozoic fossils from various localities in Canada were received as a gift from Dr. E. O. Ulrich, of Washington, by whom they were collected during field work in the summer of 1913. They are particularly valuable as they were selected with special reference to the needs of the Museum, and certain early Silurian faunas in Ontario are well represented. A series of Tertiary mollusks and Ordovician graptolites from Australia constitute an important exchange from Mr. James Hay Young, of Meredith, Victoria. The graptolites have proved exceptionally interesting for comparison with American species, as their study has shown the identity of numerous species in these two widely separated areas.

Owing to the greatly increased subdivision of the geologic time scale, resulting from recent active work in stratigraphic geology and paleontology, it has become necessary to register and locate the collections of invertebrate paleontology in greater detail than was previously customary. While this requirement entails much additional labor, especially as regards the older collections, excellent progress has been made with the Cambrian, Mesozoic, and Cenozoic material, and the work is well under way with the general Paleozoic collections. The preparation and installation of the Cambrian collections has been rapidly advanced, as Secretary Walcott was able during last year to give more of his time than usual to its supervision. One of the results was that many of the faunal series previously filling a large number of drawers have, through the process of making them ready for study, been so reduced in bulk as to occupy a minimum amount of space. Of particular importance has been the accurate location in the Cambrian period of the numerous faunas from the upper Mississippi Valley. Through the efforts of the

Secretary and Dr. E. O. Ulrich, the lower Paleozoic section of this area was worked out in detail, and the representation of its fossils in the National Museum is the best of the Upper Cambrian or St. Croixan period extant. Other Cambrian material prepared and studied during the year was the Millward collection from China, the trilobites of the southern Appalachians, several collections from Idaho and Missouri, and the abundant material from the Burgess shale and other formations of British Columbia, obtained by the Secretary during the summer of 1913. These collections are in all cases quite extensive, the last mentioned consisting of 4,000 pounds of small, carefully selected specimens.

Work on the reserve collections of Paleozoic fossils in general proceeded as follows: About 100 standard drawers, containing approximately one-half of the Cambrian brachiopod types, were labeled, completing this task. All type specimens received during the year were catalogued and appropriately marked. About 200 drawers of specimens were furnished with locality tags, and approximately 2,000 additional drawers were overhauled preparatory to the same treatment. Thirty boxes were removed from storage and their contents examined and classified. All card catalogues were brought down to date. This amount of work was only made possible through the assistance of members of the Geological Survey, and especially of Dr. Ulrich. As a further aid, the services of a preparator were furnished for one year by the State geologists of Missouri and Wisconsin, in return for reports on the stratigraphy of those States, to be prepared by Dr. Ulrich, assisted by the curator.

The curator spent some time in the preparation of illustrations from Museum specimens for the monograph on Paleozoic starfishes, by Prof. Charles Schuchert, and he also selected and had figured about 250 specimens of Paleozoic Ostracoda, to be described in a contemplated monograph of these fossil crustaceans. Mr. Frank Springer, associate in paleontology, continued work on the classification and arrangement of the fossil echinoderms. He likewise identified the various collections of crinoids and blastoids obtained by him during the year and prepared several slabs of crinoids for exhibition. The Mesozoic fossils received were placed in museum shape by Dr. T. W. Stanton and Mr. T. E. Williard, and, with the exception of 25 boxes representing the Hyatt collection, all the Mesozoic material remaining in storage was withdrawn. The reception of 20 new steel cases relieved the very troublesome congestion which had prevailed, but at the same time it necessitated the entire rearrangement of the Tertiary collections in charge of Dr. W. H. Dall. With the assistance of Dr. C. W. Cooke, of the Geological Survey, this general arrangement was completed and a large quantity of unimportant and duplicate material was eliminated. An index card cata-

logue, by the aid of which any particular lot of Tertiary fossils can readily be found, is in course of preparation. Additional room space allotted to Dr. T. W. Vaughan also made requisite a complete rearrangement of the Tertiary corals, which was carried forward as far as cases were available.

The amount of research work accomplished was extensive. Secretary Charles D. Walcott completed and published his studies of the Dikelocephalinæ trilobites, and on the Cambrian and its problems in the Cordilleran region. He also continued work on the pre-Cambrian Algonkian algal flora of North America, which has yielded unexpected results. Dr. William H. Dall finished a preliminary identification of the Tertiary fossils from the Panama Canal Zone, made good progress with his investigation of the Pacific coast Tertiary, and had about ready for submitting a monograph on the moluscan fauna of the *Orthaulax pugnax* zone of Florida.

Mr. Frank Springer completed the descriptive matter for the 75 quarto plates illustrating his monograph on the *Crinoidea flexibilia*, and brought the preparation of the text to such a point that he soon expects to send it to the press. The illustrations for his monograph on the crinoid genus *Scyphocrinus*, which had been delayed, were finished, and the work will shortly be ready for publication. With these important investigations disposed of, Mr. Springer expects to continue his studies on the Silurian crinoids of western Tennessee, the classic locality from which he has large collections. The illustrations for a large part of this work have already been made. Prof. William B. Clark, of Johns Hopkins University, and Dr. M. W. Twitchell, assistant State geologist of New Jersey, have collaborated on a monograph based mainly upon Museum specimens of the Mesozoic and Cenozoic Echinodermata of the United States, which will be published by the Geological Survey.

Dr. E. O. Ulrich, associate in paleontology, spent considerable time in a study of the early Silurian collections of the Museum, the results of which have been embodied in a bulletin entitled "The Medina and Clinton Formations of the Appalachian Valley," which has been offered to the Geological Survey for publication. Dr. Ulrich and the curator also prepared the text for the *Cincinnati Folio* of the Survey, in which many Museum specimens will be illustrated.

The principal contribution by the curator, Dr. R. S. Bassler, was in the form of a bulletin of 500 or more pages entitled "Bibliography and Synonymy of American Ordovician and Silurian Fossils," which contains, in addition to the matter indicated by the title, a register of the Museum's rich type collection of these two periods. The curator also completed a report on the early Silurian Bryozoa and Ostracoda of the island of Anticosti, Canada, based upon specimens now the property of the National Museum, which will be published

by the Canadian Geological Survey. He likewise continued work in joint authorship with Dr. Ferdinand Canu, of Versailles, France, on a monograph of American Tertiary Bryozoa, which at the end of the year had grown to such proportions that it became necessary to subdivide it. The first volume, which will deal with the early Tertiary Bryozoa, will be published by the United States Geological Survey.

Vertebrate paleontology.—Especially noteworthy among the accessions to this section were some 600 separate bones of vertebrates from the Blackfeet Indian Reservation in northwestern Montana, collected by Mr. Charles W. Gilmore, assistant curator, while on detail with the Geological Survey, by which they were transferred to the Museum. Aside from filling important gaps in the reptilian series, this material furnished the type of a new species, *Brachyceratops montanensis* Gilmore, as well as an exceptional specimen for exhibition. Also of much importance are several hundred specimens obtained by Mr. James W. Gidley, assistant curator, in the course of further explorations of the cave deposit near Cumberland, Md., begun the previous year. They include many nearly complete skulls, jaws, and articulate feet and limbs, belonging in part to genera and species not previously reported from the locality. A mountable skeleton and several good skulls of a new genus of peccary are notable; and bears, small carnivores, rodents, etc., are well represented.

Collections made by Mr. William Palmer and Mr. Norman H. Boss, of the Museum staff, in Miocene deposits near Chesapeake Beach, Md., contain a nearly complete skeleton, with skull and jaws, and a second nearly perfect skull of fossil porpoises, both suitable for exhibition purposes, besides several more or less fragmental parts of porpoises and other cetaceans. A small beak secured by Mr. Boss is of particular interest on account of the perfect preservation of the jaws and teeth. A skull, lower jaw, and five cervical vertebrae of the fossil bison, *Bison alleni*, from Alaska, a fine exhibition specimen, was obtained by purchase from Dr. O. P. Hay; and the type specimen of *Crossotelos annulatus* Case was received in exchange from Dr. E. C. Case, of the University of Michigan. Valuable material was also contained in 10 other small accessions.

Some 66 boxes of the "Marsh collection" were opened and their contents worked out. Much other material from the Geological Survey, resulting from more recent field work, was also made ready for study. The most important progress on the reptile collection comprised the mounting of the nearly complete skeleton of the new dinosaur, *Thecelosaurus neglectus*, and of a partial skeleton of the duck-billed form, *Trachodon*; the practical completion of the work of cleaning up the *Stegosaurus* material; the preparation of partial skeletons of five individuals of the Ceratopsian dinosaur *Brachy-*

ceratops, of specimens of the trachodont reptile *Hypacrosaurus*, and of the turtle *Echmatemys*; and the remounting of the hind limbs of *Allosaurus fragilis*. The principal mammalian material prepared was the fine porpoise skeleton from Chesapeake Beach, Md., and a considerable part of the collection from the Pleistocene cave deposit near Cumberland, Md. Complete or partial skeletons of *Brachyceratops montanensis*, *Stegosaurus*, *Trachodon*, *Sinopa*, *Euplatygonus*, *Epigaulus*, and *Canis dirus* were ready for mounting at the close of the year.

Mr. James W. Gidley, assistant curator in charge of fossil mammals, extended his study of fossil pycnodont fishes to include three additional forms, descriptions of which were published during the year. He also continued work on the Fort Union material and submitted a paper defining an important species apparently representing some of the living families of Australian marsupials. A second paper on two other groups of Fort Union mammals was practically completed. In addition to descriptions of several new species, it includes a general discussion in which a genus of the creodont family *Arctocyoniidæ* is advocated as representing the ancestral group which gave rise to the modern bears. Further investigation of this basal Eocene material emphasizes more and more its great importance. Already recognizable representatives of at least five modern groups of mammals, not heretofore believed to have existed at so early a stage, have been found, and the final result will doubtless be to very materially change the accepted theories regarding the derivation and phyletic relations of the later prehistoric and present-day groups of mammals.

Mr. Charles W. Gilmore, assistant curator in charge of fossil reptiles, completed an extended paper on the "Armored dinosaurs in the United States National Museum, with especial reference to the osteology of *Stegosaurus*," which had been in preparation for three years. He also published a description of the new genus and species *Brachyceratops montanensis*, a small horned dinosaur from the Upper Cretaceous of Montana, and made good progress on a more detailed account of the osteology of the same and of other reptiles from Montana, which will be issued by the Geological Survey under whose auspices the material was collected. The osteology of *Thescelosaurus*, a preliminary account of which was printed the previous year, was likewise the subject of study by Mr. Gilmore, and he had in preparation a chapter on the Dinosauria and other fossil reptiles for a geological guidebook to be published by the Survey.

The services of Dr. C. R. Eastman were secured to revise the collection of fossil fishes, on which he was engaged during the last half of the year. Over 5,000 individual specimens, besides a large number of fragments, were examined; old identifications were verified or

corrected, and the new materials described. A report upon this investigation remains to be submitted. Dr. O. P. Hay, who is engaged, under the Carnegie Institution of Washington, in the study of the vertebrate animal life of the North American Pleistocene period, was furnished, as heretofore, with accommodations for his work in the National Museum. Up to the present time his attention has been mainly directed to the larger land mammals, and primarily to a correct determination of the species found and their relation to the various divisions of the Pleistocene, as now recognized. In furtherance of this research he has studied the Museum collections as well as those elsewhere available, and is preparing important papers, accompanied by maps, showing the geographical distribution of all reported finds, some of which have already been published.

Paleobotany.—Three valuable type collections of fossil plants were received from the Geological Survey, as follows: About 150 specimens from Cape Lisburne, Alaska, obtained by Mr. Arthur J. Collier in 1904 and described by Dr. F. H. Knowlton; 168 specimens from the Tuscaloosa formation of Alabama, described by Mr. E. W. Berry; and a series of Cretaceous and Tertiary forms from South Carolina and Georgia, described by Mr. Berry. Another accession, comprising 45 specimens of fossil wood from the Leeward Islands, collected by the Geological Survey and the Carnegie Institution of Washington during joint field work, was acquired by transfer from the former and as a gift from the latter.

The most important work of the year was the completion of a card index of the Mesozoic and Cenozoic plants, which required the detailed overhauling of over 2,500 drawers of specimens, by Mr. T. E. Williard, of the Geological Survey, under the direction of Dr. F. H. Knowlton. With the preparation of a similar catalogue of the Paleozoic plants during the previous year, under Mr. David White, it is now possible to locate any parts of the paleobotanical collections without delay. Moreover, no fossil plant material remains in storage.

Dr. Arthur Hollick, of the New York Botanical Garden, spent over two months in a continuation of his studies on the Cretaceous and Tertiary floras of Alaska, while Dr. E. W. Berry, of Johns Hopkins University, was engaged in paleobotanic researches covering the Upper Cretaceous and Eocene strata of the Atlantic Coast Plain. Both of these pieces of work, which are being based on the Museum collections, are so extensive that several years will be required for their completion.

Exhibition collections.—For the display of new accessions of important mineral specimens, awaiting opportunity for their proper assignment, a Kensington case was provided near the east end of the mineral hall, and it will be possible to keep it approximately

filled at all times. In view of the exceptional interest in the subject at this time, a special collection of radio-active material was brought together, and is attracting much attention. It consists of all suitable specimens that were in the possession of the Museum, besides a number of others obtained for the purpose, and is arranged in a double American case, in which has also been placed a series of minerals illustrating physical properties as an introduction to the study of the systematic collection.

In the hall of applied geology a new exhibit of native copper, together with a small amount of naturally associated gangue minerals, was installed in one floor upright case. The pieces range from small hand specimens of arborescent growth to large thin sheets over 2 feet in diameter, and many grotesque forms are shown as well as specimens whose chief interest lies in the light they throw on the genesis and geologic associations of native copper. The two older cases devoted to copper now contain exhibits essentially of the compounds of this mineral. The general display of iron ores, comprising a little over 300 specimens, both domestic and foreign, was rearranged in three new wall cases, while that of the Tenth Census iron ores was enlarged and rearranged by species under States. The collection relating to the geology and mining industry of Leadville, Colo., was reorganized with such a selection and arrangement of rock and ore samples as will amply and systematically illustrate the subject as described in Emmons' report on the Leadville district. A series of ore specimens of silver, cobalt and nickel minerals in their natural gangue associations, from Cobalt, Ontario, was installed in a large case. Some of these are cut and polished and serve excellently to illustrate the paragenesis of the ores of this locality. In the same case the geology of the Sudbury district, Ontario, is also illustrated by a group of hand specimens of granitic and ore-bearing basic intrusives. Some large and notable examples of ornamental stones were added to the economic series, and the exhibit of natural substances used for abrasive purposes was much improved.

In systematic geology, the meteorite collection was rearranged to fill one wall and one American case, the section from the Marengo Cave was installed in a more fitting manner, and a collection of varied imitative forms and one showing Indian laterites were added.

In invertebrate paleontology the new installations comprised illustrations of the more important and characteristic fossil corals in an American case, a similar collection of fossil Medusæ, and smaller exhibits of fossil holothurians and echinoids. The crustaceans of the family Eurypteridæ were rearranged to occupy the greater part of an upright metal case, and the final preparatory work and general restoring of the fossil crinoids in three upright cases were completed and permanent printed labels added. In vertebrate paleontology,

the skeletons of the two reptiles *Thescelosaurus neglectus* and *Allosaurus fragilis*, elsewhere referred to, were installed, the porpoise skeleton from Chesapeake Beach, Md., was temporarily placed, and a long wall case was utilized for partial skeletons of early mammals. In paleobotany the exhibit of fossil wood was improved by placing it in two long wall cases; several greatly enlarged photographs representing fossil forests of Carboniferous and Mesozoic age, and a number of large illustrations of restorations of Paleozoic plants, were added.

Explorations.—The only field work of importance was carried on in connection with the division of paleontology, although the head curator made some observations in the summer of 1913 while collecting feldspar for the educational series, and briefly studied a pyroxenite occurrence at South Freeport, Me.

Two explorations were conducted by Secretary Walcott during the season of 1913, one in the Robson Peak District of British Columbia and Alberta, Canada, the other at the celebrated Middle Cambrian localities near Field, British Columbia. In both regions the investigations of previous summers were continued and rich collections of fossils, including a number of new genera and species, were obtained. The material brought to Washington aggregated about two tons of carefully selected specimens. The curator of the division, Dr. Bassler, spent several weeks of the summer in continuation of his studies of the Cambrian and Ordovician rocks of western Maryland, completing the geologic mapping of this area and securing many fossils. During July, under detail to the Geological Survey, he mapped the Hamilton and Mason quadrangles of southwestern Ohio. In June, 1914, he made a trip through some of the Southern States, studying in detail the stratigraphy of certain Tertiary formations and collecting fossil Bryozoa required for the completion of his monograph on this group.

Under the direction of Mr. Frank Springer, Mr. Frederick Braun engaged in extensive collecting work during the season of 1913 in Illinois and adjoining States, with special reference to securing crinoids from the Chester division of the Mississippian. The results of this exploration have enabled Mr. Springer to definitely correlate certain upper Mississippian formations in various regions which have hitherto been in doubt, and several excellent slabs of crinoids and blastoids, invaluable for exhibition purposes, were obtained.

During six weeks of July and August, 1913, Mr. Charles W. Gilmore was detailed to the Geological Survey to enable him to collect Upper Cretaceous vertebrate fossils in the Blackfeet Indian Reservation in northwestern Montana. Though the material obtained was not extensive in amount, it included a very valuable series of dinosaurian remains, none of which had previously been represented in

the Museum. Mr. James W. Gidley examined the Pleistocene cave deposit at Cumberland, Md., on several occasions, and secured much interesting material, including a nearly complete skeleton of a large peccary-like animal, besides many good skulls of this and other species, some of which had not previously been discovered. He also visited a cave deposit at Renick, W. Va., on the Green Brier River, where specimens similar to those found at Cumberland, were collected. A few short trips were made by Mr. Norman H. Boss and Mr. William Palmer to the Miocene marl deposit in the vicinity of Chesapeake Beach, Md., where they obtained some 30 specimens of fossil cetaceans, including one fine porpoise skeleton and several more or less complete skulls of porpoises and whales.

Dr. E. T. Wherry spent three weeks during June, 1914, under the auspices of the Geological Survey in areal mapping for the folio publication of the Reading and Allentown quadrangles in eastern Pennsylvania.

THE ARTS AND INDUSTRIES.

Textiles.—As was to be expected, with the spread of information as to the organization and activities of this division, so recently reestablished, there was a considerable increase during last year, both in the number of accessions and in the general value of the material received, manufacturers and others entering cordially into the scheme of building up a collection that would be both comprehensive in its scope and practical in its purposes. Following are the more important of the accessions, all of which were of the nature of gifts except where otherwise stated:

The Messrs. Cheney Bros., of South Manchester, Conn., added to their already important exhibition a large series of specimens illustrating steps in the processes followed in weaving, printing, and finishing silk goods; examples of silk scarfs made up from standard weaves of tie silks, and woven and knit cravats both finished and as they come from the loom or knitting machines; printed silk flags made during the presidential campaign of James G. Blaine, being among the earliest prints made on silk by copper rollers; and specimens of various kinds of taffeta, satin, grosgrain, ottoman, and velvet ribbons. This firm also presented the oldest model of the Grant silk reel, a machine invented in 1882 by James Munroe Grant while employed in the Hartford mill of the Cheney Bros., by means of which the thread forming the skein is crossed at regular intervals, the cross in the skein preventing tangling during dyeing and subsequent handling.

Samples of surface-printed broad silks, woven, printed, and finished in the American plant of the Duplan Silk Co., in New York, from designs prepared in the Martine School of Decorative Art,

Paris, under the direction of M. Paul Poirer, were contributed by the company. These silks are the first of the kind to be made in America and sold abroad, and are not generally recognized as of domestic manufacture. One of the patterns is printed with wooden blocks by hand, and is among the first of hand-block printing on a heavy silk fabric produced in this country.

Messrs. M. C. Migel & Co., of New York, presented specimens of "ad hoc" printing on pussy willow taffeta brocade, being examples of the first successful work of this nature done in the United States. The combination of the purity and transparent qualities of the block-printed colors with the bold relief effect of the brocade pattern and the softness of the pure dye taffeta fabric gives very rich and beautiful results. From Messrs. E. & Z. Van Raalte, of New York, the Museum received a series of 24 styles of American-made face veilings, the first high-grade material of this character designed and made in this country; from the Forest Silk Co., of New York, 12 samples of brocaded novelty silks used for dress trimmings, of designs prepared for the fall season of 1914; and from Mitsui & Co., of New York, a commercial package or "book" of the best grade of raw Japanese silk, showing the method of packing and wrapping to exclude dust and moisture.

A collection of fancy wash dress goods and shirtings from the Aberfoyle Manufacturing Co., of Chester, Pa., comprises pleasing and artistic combinations of plain, ratine and mercerized cotton yarns with spun silk and viscose silk in plain and fancy weaves. Most of the samples represent goods manufactured for the fall season of 1914 and exhibited in the Museum before being sold to the public.

The Bureau of Animal Industry of the Department of Agriculture deposited in the Museum the extensive collection of wools and woolen products illustrating methods of grading and manufacture and suggested improvements in breeding and marketing raw wools, which had been prepared by the Division of Animal Husbandry for the conference of growers and manufacturers of wool held in Washington, June 2-4, 1914. The series includes examples of the deteriorating effects of disease and poor range on the quality of the wool and of the defects shown in finished fabrics traceable to improper methods of marking sheep and tying fleeces. It also contains specimens illustrating the steps in the processes of worsted spinning by both the English and French systems and the preparation and mixing of raw materials for the manufacture of woolen fabrics. From the Pacific Mills, at Lawrence, Mass., through Messrs. Lawrence & Co., there was received a collection of 3-yard samples of piece-dyed worsted dress goods and linings, including serge, diagonal, panama cloth, luster cloth, crêpe, voile, batiste, challie, prunella cloth, ratine, albatross, coat linings, etc.

The Universal Winding Co., of Boston, Mass., placed in the Museum as a loan their original gyroscope machine, which has served as the basis for many other patents. By the system of winding developed by this appliance the thread or yarn is laid on a supporting cylindrical or conical center in regular helical coils which reverse with a sharp bend, each coil crossing over the preceding one, binding it in place at each crossing. The coils form a compact self-supporting package and when unwound deliver the yarn without twisting or tension. The same company also contributed a series of specimens illustrating the various kinds of work done by their machines, including the winding of such materials as raw, spun, and artificial silk, fine and coarse, plain and mercerized cotton yarns, glazed twine, shoe thread, binder twine, jute and cotton cords, asbestos yarn, tape, sisal rope, japanned wire, etc. These materials are wound in packages of various sizes and shapes and on tubes, cones, quills, bobbins, cops, etc.

For samples of white and colored fancy cotton and cotton and artificial silk dress goods, including *matelassé*, piques, ratines, and other seasonable wash goods, the division is indebted to Leshner, Whitman & Co., of New York; for 85 samples of plain and fancy cotton wash dress goods, stock or yarn dyed, and woven in plain, checked, plaid, and striped effects, to the Parkhill Manufacturing Co., of Fitchburg, Mass.; for specimens of old English hand-printed chintzes, fabrics, and designs which are being revived and are now in favor for interior decoration and upholstery, to Witcombe, McGeachin & Co., of New York; for examples of crinkled seersucker, Jap *crêpe*, Devonshire cloth, and zephyr madras woven from plain and *crêpe* cotton yarns, and of satin-finished cotton table damask, to the Renfrew Manufacturing Co., of Adams, Mass.; for specimens of fancy printed velveteens, used for millinery trimmings and for vestees, including examples of pigment printing in gold and silver effects, to Messrs. Henry Kupfer & Co., of New York; for samples of cotton and silk dress goods and linings, including cotton fabrics finished to imitate those made of silk and of wool, to Messrs. A. G. Hyde & Sons, of New York; for samples of imported and domestic cotton dress goods woven from novelty and ratine yarns, which meet the demands of the season for rough-surfaced fabrics, to Woodward & Lothrop, of Washington.

Messrs. William Liddell & Co., of New York, contributed specimens of fine grass-bleached Irish linen, unbleached damask tablecloth linen, fine linen damask tablecloths made in Belfast, and also a series of flax products from the seed to the finished fabric.

The donations of ribbons included warp-printed and satin-brocaded ribbons, comprising some of the very finest material of this character produced in the United States, from Messrs. Smith & Kaufmann, of

New York; a collection of pure dye silk ribbons, made, finished, moiréed, etc., in Paterson, N. J., and woven on high-speed looms of American manufacture, consisting of examples of satin, taffeta, gros-grain, ottoman, and warp-printed ribbons, from the Taylor-Friedsam Co., of New York; and a representation of broad ratine ribbons with slightly rippled silk stripes in bayadere style, made from cotton and artificial silk, which are extensively used for millinery trimmings and girdles, from Messrs. Pelgram & Meyer, of Paterson, N. J.

A very instructive exhibit of specimens and photographs illustrating the manufacture of fur felt hats was presented by the John B. Stetson Co., of Philadelphia, Pa. It includes raw and carroted beaver, nutria, hare, and coney skins; samples of graded, blown, and sorted furs; specimens of all the kinds of leather and silk trimmings used, together with both soft and stiff hats in the several stages of manufacture, from the formed hat body to the finished hat; and also an assortment of soft and stiff hats characteristic of certain styles. The manufacture of linoleum, including the raw materials, examples showing the effect of successive printings, and patterns of different types of finished goods, is also represented in the same manner in a contribution from the Armstrong Cork Co., of Lancaster, Pa. A series of specimens illustrating successive stages in the knitting, cutting, and finishing of infants' underwear, of which the materials are fine Australian worsted yarn with cotton, or a mixture of silk and fine Australian wool, was received from the Earnshaw Knitting Co., of Chicago, Ill. The garments are trimmed with a special twistless tape, woven from right-and-left twisted yarns, so that the child may be dressed without the use of pins or buttons.

Acknowledgments are due to the Cassella Color Co., of New York, for a collection of coal distillation products and dyestuffs illustrating the artificial color industry, prepared especially for the Museum. It includes the principal products obtained from coal, the middle products which serve as the source of the several important series of artificial coloring matters, and examples of typical, standard dyestuffs. Instead of being arranged on the lines usually adopted for elucidating the development of organic chemistry, the collection has been made comprehensive from the standpoint of the textile industry, the names used being such as are referred to in scientific and technical literature and are well known in the industry.

A number of baskets and hand-woven textiles, made by the mountaineer people of Kentucky, North Carolina, and Virginia, being examples of the fine handicraft work of these neglected Americans, were purchased from the Southern Industrial Educational Association; and a hand-woven coverlet made in 1827 by Miss Elizabeth Harmon in Highland County, Va., an excellent and carefully preserved specimen of hand weaving, was also purchased.

The Bureau of Education at Manila, P. I., furnished in exchange a series of five grades of knotted abaca fiber and implements for spinning and reeling the same and cotton. Each grade is nested in a basket and weighted down with gravel to prevent tangling while being reeled. After careful grading, the fibers are tied end to end, using a small, hard knot, following which the resultant continuous fiber is treated like a spun yarn. There is a very large trade in knotted abaca for both home consumption and export; it is woven into fabrics and hat braids. A *tiré filet* bedspread and bolster made by expert needlewomen in Porto Rico, a beautiful example of the handicraft work of these people, prepared as a wedding gift for a prominent American girl, was purchased.

Besides textiles and textile materials, this division was the recipient of several important additions of other animal and vegetable products. The Bureau of Fisheries furnished a series of specimens of the species of fresh-water pearl shells from the Mississippi Valley which are used for the manufacture of buttons. It contains examples of the large shells, furnishing as many as 60 buttons each, which were common 20 years or more ago, as well as of the very young shells, from which only a single button can be cut, and which are now being utilized. The Hawkeye Pearl Button Co., of Muscatine, Iowa, presented a collection showing the different steps in the manufacture of pearl buttons, accompanied by a series of finished and carded buttons, and a model of the type of boat and drag used in collecting the shells in the fresh-water streams. The manufacture of pearl and vegetable ivory buttons is illustrated in a contribution from Messrs. Rothschild Bros. & Co., of New York, which relates principally to the utilization of marine forms furnishing mother-of-pearl, and includes specimens of raw and polished shells belonging to the genera *Margaritifera*, *Trochus*, *Turbo*, *Haliotis*, and *Unio*, besides seeds of a species of ivory nut palm of the genus *Phytelephas*. The making of buttons from vegetable ivory, furnished by seeds of *Phytelephas*, is also brought out in a gift from the Rochester Button Co., of Rochester, N. Y., which represents each stage in the process and contains samples of the waste produced in the sawing and turning of the raw material. The importation of these seeds or nuts for button making is rapidly increasing, the amount brought into this country in 1913 having reached 29,000,000 pounds.

A Mexican bridle of the old-fashioned type, made of finely cut and plaited rawhide and of perfect workmanship, was the only specimen of leather received. It was obtained, through exchange, from Mr. Ernest Thompson Seton, of Greenwich, Conn. A set of 18 Dutch standard sugar samples, a standard which, after being in use for 40 years in grading raw sugars for revenue purposes, was abolished

by the tariff act of 1913, was deposited by the Division of Customs of the Treasury Department. For samples of gums and resins collected in the market of Aden, British Arabia, by American Consul Walter H. Schulz, the Museum is indebted to the Bureau of Foreign and Domestic Commerce of the Department of Commerce. These substances constitute an important item in the trade of Aden, the principal varieties being gum arabic, myrrh, gum benjamin or benzoin, and frankincense or olibanum; and the possession of such authentic commercial specimens will serve a useful purpose for the identification of unnamed material. A number of specimens of tan barks collected in the Philippine Islands, together with a record of their chemical analysis, which shows a high percentage of tannin, were transferred from the Bureau of Plant Industry of the Department of Agriculture.

A collection of Panama woods, accompanied by botanical specimens from the same trees, obtained by purchase, supplements a larger one previously made by Mr. H. Pittier while a member of the Smithsonian Biological Survey of the Panama Canal Zone. These samples, which have been determined by Mr. Pittier and their structure studied by the Bureau of Forestry, will form the basis of a reference collection for the identification of future wood samples from this region. Two beautifully mottled boards of the finest grade of cypress lumber, 30 inches wide, 16 feet long, and carefully kiln dried, were obtained by purchase from the Lyon Cypress Lumber Co., of Garyville, La. A large section of the trunk of an empress tree, *Paulownia tomentosa*, growing in the Smithsonian grounds, which was destroyed by the severe storm of July 30, 1913, was received from the Office of Public Buildings and Grounds. It is a unique specimen of this beautiful wood, illustrating the great size attained by this Japanese tree.

As the time of the curator and preparators was practically all occupied in connection with the solicitation, cataloguing and installation of new material and the improvement of the exhibition series, but little progress was made in the arrangement of the study series. All accessions were promptly catalogued, and most of the specimens placed on exhibition were at once supplied with typewritten labels, to be replaced later with printed ones. The main series of the principal textile fabrics—cotton, wool, silk, and flax—have been installed in the south hall of the older building, and represent a more or less permanent arrangement. The animal products have been temporarily placed in the southwest gallery, their final disposition being delayed in order to complete certain portions of the series. While the collections of vegetable products, including examples of the various kinds of woods, were added to considerably during the year, no attempt has been made to exhibit them, owing to their incompleteness.

the surface conditions at the mine, its most significant feature is the clear comprehension it imparts of the system of coal mining in common vogue in this country, known as the room and pillar system. In this respect it is an excellent companion piece to the one previously mentioned, whose dominating exhibition feature is its depiction of surface operations. The model covers a floor space of 8 by 12 feet.

A relief panel illustrating processes involved in the manufacture of illuminating gas, tar, ammonia, and other coal products in what is known as the by-products coke industry, and designed to set forth these complicated processes in the most readily comprehensible manner. For a most admirable solution of this problem the Museum is indebted to Mr. C. G. Atwater, of the American Coal Products Co., of New York, and Mr. C. H. Ramsburg, of the H. Koppers Co., of Chicago, in accordance with whose plans the exhibit was constructed in the division workshop.

Seven pictorial enlargements, $3\frac{1}{2}$ by 6 feet in size, showing typical underground operations incidental to coal mining, the gift of the Jeffry Manufacturing Co., of Columbus, Ohio, are remarkable examples of photographic art, in view of the extreme difficulty of the subject, and add greatly to the educational value of the coal series now being developed.

A series of native gypsum and gypsum products, presented by the United States Gypsum Co., of Chicago, Ill., which has given generous cooperation in connection with the entire subject, forms part of an industrial exhibit designed to cover the occurrence, mining, treatment, and industrial adaptability of this mineral.

A collection illustrating crude mica and its industrial products, constituting part of an exhibit in which the occurrence, technology, and uses of mica will be summarized, contributed by the Westinghouse Electric Manufacturing Co., of East Pittsburgh. A most remarkable 45-pound specimen of pure mica in its natural condition was the gift of the Ridgeway Mica Co.

The materials pertaining to mineral technology, which had been accumulating previous to the organization of the division, were found packed in more or less inaccurately or incompletely labeled boxes, stored in various places. During last year all of these boxes except such as contained only ornamental terra cotta were opened and suitable disposition made of their contents. The greater portion of the specimens proved to be wholly unsuitable for use along the accepted lines of development of the division, and were either returned to the donors or destroyed. Of the remainder, a part was listed and filed away, to be drawn upon as required, and the balance at once prepared for exhibition, which demanded extensive repairs and cleaning, and in some cases even rebuilding. The principal exhibits so attended to were the large working model of the Consolidation Coal Co.'s colliery at Fairmont, W. Va.; the colliery

model representing the Pittsburgh Coal Co.'s operations at Willock, near Pittsburgh; a model of the Takashima coal field, Japan; a model of the Western Coal & Mining Co.'s colliery at Jenny Lind, Ark.; a model of the Fayal iron mine at Eveleth, Minn.; and a blast furnace model.

The value of the systematic series covering the coal and coal-products industries was further enhanced by the addition of four models designed and constructed within the division, representing, respectively, a Bennington coke pile, a non-by-product rectangular coke oven, a gas bench, and a complete by-products plant according to Koppers' system. A rather unique supplement to the coal series proper, also devised and constructed by the division, represents the coal resources of the world, as apportioned by kind and amount among the various countries and individual States of the Union. The foregoing were all permanently installed during the year, with descriptive labels explaining the nature of conditions and operations represented. All accessions of the year from outside sources were also placed on exhibition in either permanent or temporary form.

DISTRIBUTION AND EXCHANGE OF SPECIMENS.

There was distributed to schools and colleges for educational purposes an aggregate of 14,564 duplicate specimens, besides about 400 pounds of rock and mineral fragments suitable for blowpipe instruction, all properly identified and labeled. The majority of the material was put up in regular series, the sendings of which were as follows: Mollusks, 22 sets of 174 specimens each; fossil invertebrates, 33 sets of 40 to 54 specimens each; minerals and ores, 26 sets of 84 to 86 specimens each; rocks, minerals, and ores, 7 sets of 74 specimens each; and rocks, 2 sets of 70 specimens each. The special educational distributions comprised 58 lots with an aggregate of 6,279 specimens, of which over 90 per cent consisted of marine invertebrates, fossils, and geological specimens, though nearly all the subjects of the scientific divisions were represented.

In exchange transactions a total of 15,224 specimens were used, of which 11,967 were botanical, over 1,500 geological and paleontological, the remainder belonging to the several divisions of zoology and anthropology.

As to the specimens sent out for study only approximate figures can be given, as in many cases they were in unassorted lots awaiting determination, this being especially so with the recent marine invertebrates and the fossil invertebrates. The figures as recorded are 10,256 for the department of biology and 5,425 for the department of geology, a total of 15,681 specimens, besides 107 lots of fossils, and 746 lots of marine invertebrates. These specimens were dis-

tributed among a large number of scientific experts, both at home and abroad, for investigation and determination mainly for the direct benefit of the Museum, but partly in the interest of other institutions. All were to be returned, and some had been received before the close of the year.

Exchange relations were carried on during the year with the following establishments abroad: The British Museum of Natural History, London, the Royal Botanic Gardens, Kew, the Geological Museum, Cambridge, and Alexandra Park, Manchester, England; the Muséum d'Histoire Naturelle and the Herbarium of Prince Roland Bonaparte, Paris, France; the Kgl. Zoologisches Museum and the Rudolf-Virchow Krankenhaus, Berlin, the Königl. Botanisches Museum, Dahlem, Steglitz bei Berlin, the museum of the Geologisches Institut der Universität, Breslau, the Naturhistorisches Museum, Hamburg, the Museum für Völkerkunde, Leipzig, and the Zoologische Sammlung und Zoologisches Institut, Munich, Germany; the Botanisches Laboratorium, K. K. Universität, Graz, and the K. K. Naturhistorisches Hofmuseum, Vienna, Austria; the Conservatoire et Jardin Botaniques, Geneva, and the Musée d'Histoire Naturelle, Neuchâtel, Switzerland; the Royal Botanical Garden, Palermo, Italy; the Musée Royal d'Histoire Naturelle de Belgique and the Geological Survey of Belgium, Brussels, and the Université de Liège, Liège, Belgium; the Universitets Botaniske Museum and Zoologiske Museum, Copenhagen, Denmark; the Naturhistoriska Riksmuseum, Botaniska Afdelning, Stockholm, Sweden; the Kaiserlicher Botanischer Garten, St. Petersburg, and the Komitet Imp. Geograficeskago Musei Osesstva, Irkutsk, Siberia, Russia; the Geological Commission of Finland, Helsingfors, Finland; the Durban Museum, Durban, and the Rhodesia Museum, Bulawayo, Rhodesia, Union of South Africa; the Botanic Gardens, Sydney, New South Wales, Australia; the Indian Museum and the Geological Survey of India, Calcutta, and the Royal Botanic Garden, Sibpur, India; the Botanical Garden, Lawang, Java; The Museo Nacional, San José, Costa Rica; the National School of Agriculture, Lima, Peru; the University of Alberta, Edmonton South, Alberta, the Provincial Museum and the Royal Ontario Museum of Mineralogy, Toronto, Canada.

NATIONAL GALLERY OF ART.

The most important acquisition of the year consisted in the formal transfer to the Smithsonian Institution by Mr. Charles L. Freer, of Detroit, Mich., on February 24, 1914, of 198 objects as additions to his munificent gift to the Nation, comprising all of the material which he had assembled since the last previous transfer on November 6, 1912. This contribution may be summarized as follows:

Of American works of art there were 20, namely, 1 oil painting and 3 pastels by Dwight W. Tryon, 2 oil paintings by Thomas W. Dewing, 1 oil painting by Abbott H. Thayer, 2 water colors by Winslow Homer, 2 oil paintings by John S. Sargent, 1 oil painting by John H. Twachtman, and 4 oil paintings, 1 water color, and 1 etching by James McNeill Whistler, besides the Coast Survey copper plate made famous by Whistler and 1 impression from the same. The oriental part of the collection aggregated 178 examples, and consisted of 19 paintings, of which 1 large screen, 1 panel, 4 kake-mono and 6 makimono were Chinese and 7 makimono were Japanese; 23 pieces of pottery, of which 14 were Chinese, 5 Japanese, 3 Korean, and 1 Rakka; 58 bronzes, of which 56 were Chinese and 1 each Japanese and Babylonian; 65 objects sculptured in various kinds of stone, all Chinese; 8 figures in cast iron and 1 in pewter, of Chinese origin; 1 piece of Chinese and 1 of Persian glass; 1 Chinese rug, and 1 piece of Chinese velvet.

The original donation by Mr. Freer contained approximately 2,326 objects. In the deed of gift of May 5, 1906, by which conveyance was made to the Institution, it was provided that the collection should remain in the possession of the donor during his life and that he might make such appropriate additions to it as he should select. Additions have, in fact, been made continuously and on a lavish scale, and from time to time these have been formally transferred by supplemental deeds of gift, which now number 5 in all. They record in the aggregate a slightly larger number of objects than composed the first contribution and this remarkable collection has therefore been more than doubled during the intervening eight years.

Following is a brief summary of the original gift: The American examples numbered 859, and comprised 95 oil paintings by James McNeill Whistler, Dwight W. Tryon, Thomas W. Dewing, and Abbott H. Thayer; 42 water colors by Whistler, Tryon, and Thayer; 43 pastels by Whistler, Tryon, and Dewing; 1 silver point by Dewing; and 100 drawings and sketches, 3 wood engravings, 388 etchings and dry points, 164 lithographs, 22 original copper plates, and the decorations of The Peacock Room, by Whistler. Of oriental paintings there were 489, namely, 121 Japanese screens, 50 Japanese and 3 Chinese panels, 251 Japanese and 36 Chinese kake-mono, 9 Japanese and 2 Chinese makimono, 4 albums of Japanese paintings and sketches, and 13 Tibetan paintings. Oriental pottery was represented by 953 pieces, of which 681 were Japanese, 92 Chinese, 84 Korean, 92 central Asian, 1 each Egyptian and Moorish, and 2 Grecian. The remainder of the collection consisted of 5 Chinese bronzes, 19 lacquered objects, and 1 decorated Japanese box.

The collection as constituted to-day contains approximately 983 examples of American art and 3,718 examples of oriental art, or a total of 4,701 pieces.

SUMMARY OF THE CHARLES L. FREER COLLECTION OF AMERICAN AND
ORIENTAL ART ON JUNE 30, 1914.

AMERICAN ARTISTS.

Thomas Wilmer Dewing. Twenty-six oil paintings, 9 pastels, and 1 silver point.

Childe Hassam. One oil painting.

Winslow Homer. One oil painting and 3 water colors.

J. Gari Melchers. One oil painting.

John Singer Sargent. Two oil paintings.

Joseph Lindon Smith. Two oil paintings.

Abbott Handerson Thayer. Eleven oil paintings and 1 water color.

Dwight William Tryon. Twenty-nine oil paintings, 2 water colors, and 16 pastels.

John Henry Twachtman. Two oil paintings.

James McNeill Whistler. Sixty-two oil paintings, 44 water colors, 32 pastels, 110 drawings and sketches, 1 album of sketches, 413 etchings and dry points (626 impressions), 172 lithographs (193 impressions), 3 wood engravings, 38 original copper plates (including the Thames set of 16, with an impression from each of the plates after they had been defaced, and the Coast Survey plate), and the entire decorations of The Peacock Room.

ORIENTAL PAINTINGS.

Screens. Japanese, 145; Chinese, 4.

Panels. Japanese, 69; Chinese, 32.

Kakemono. Japanese, 267; Chinese, 160.

Makimono or scroll paintings. Japanese, 18; Chinese, 131.

Albums containing from 4 to 78 paintings and sketches each. Japanese, 4; Chinese, 28.

Tibetan paintings, 13.

ORIENTAL POTTERY.

Japanese, 754; Chinese, 251; Korean, 224.

Central and western Asian, 295, of which 157 were from Rakka, 95 from Persia, 15 from Babylonia, and the remainder from miscellaneous sources, including Saltonabad, Hembodji, Djohar, Damascus, and Arabia.

Egyptian, 137; Moorish, 1; Greek, 3.

ORIENTAL BRONZES.

Chinese, 211; Japanese, 6; Egyptian, 7; Persian, 2; Grecian, 2; and 1 each from Korea, Babylonia, Syria, Cambodia, Anthia, Swankholer Sukhotai, Chien-Rai (Western Laos), and an unknown locality.

STONE OBJECTS, SCULPTURES, AND CUTTINGS.

Chinese, 213 (including 81 jade objects); Japanese, 1; Egyptian, 20.

LACQUERED OBJECTS.

Japanese, 22; Chinese, 9.

GLASS.

A collection of ancient Egyptian glass, comprising bottles, vases, and miscellaneous shapes, numbering over 600 pieces. Also 1 piece each of Persian and Chinese glass.

WOOD CARVINGS.

Japanese, 12; Chinese, 2; Egyptian, 3.

MISCELLANEOUS OBJECTS.

Includes gold ornaments, medallions, etc., of Byzantine and Cypriote origin, ivory statuettes from Cambodia, and various objects from China, Japan, Korea, Egypt, and Damascus. The total number is 62.

It is interesting to note in this connection that during the past year Mr. Freer, with the cooperation of a distinguished architect of New York, has devoted much time to the preparation of tentative plans for the building to house this collection, the cost of erecting which has been provided for by Mr. Freer. This building will occupy a position near the other buildings under the Institution, and will be constructed of marble in a style indicative of its object and contributing an architectural feature worthy to be classed among the best in Washington. It is the present purpose to have a single story above a high basement, the former to be used for exhibition purposes, the latter to furnish student rooms, an auditorium, and facilities for whatever other requirements the administration of this large, varied, and valuable donation may call for.

Mr. William T. Evans, of New York, continued his benefactions to the Gallery, and by the gift of three oil paintings increased the collection which bears his name to 147 examples of the work of 105 contemporary American artists. In these donations Miss Clara Taggart MacChesney is represented by "A Good Story," which obtained a bronze medal at the Pan-American Exposition, a silver medal at the Louisiana Purchase Exposition, and the second Hallgarten prize of the National Academy of Design in 1901; Mr. Guy C. Wiggins, whose "Columbus Circle, Winter," was previously presented to the Gallery, by a painting of much merit, entitled "Gloucester Harbor"; and Mr. Addison T. Millar, recently deceased, by a canvas entitled "The Waterfall."

There were also 2 other donations aggregating 6 paintings, 5 in oil and 1 in pastel. One of these, by Du Bois Fenelon Hasbrouck, entitled "Autumn Landscape," was received as a gift from Mr. Frederic Fairchild Sherman, of New York, in memory of his wife, Eloise Lee Sherman. The remainder were presented by Mrs. Walter Shirlaw, and are as follows: "Portrait sketch of Walter Shirlaw at the age of 35," by Frank Duveneck, and 4 paintings by Walter Shirlaw, namely, "Bell Foundry, Germany" (study for "Toning of the Bell"); "Study Head—Madam Capri" (sketch made at one sitting); "The Inn, Germany"; and "Easter Morning," a decorative panel in pastel.

The loans to the Gallery were comprised in 12 accessions and consisted of 109 paintings and 3 pieces of sculpture. Of the paintings 81 were received for 2 special exhibitions, the others being regularly installed with the general collection. Mr. William L. Slater, to whom were returned in the autumn of 1913 the 25 paintings enumerated in the last report, at the beginning of June, 1914, again lent the following 19 examples, namely: Rembrandt, "The Rabbi"; Ruysdael, "The Dunes near Haarlem"; Corot, "Nymphs and Fauns"; Troyon, "Horses at Watering Trough"; Millet, "Seamstresses sewing on Shroud" and "The Drinking Place"; Diaz, "Forest of Fontainebleau" and "The Island of Cupids"; Rousseau, "Sunset in a Wood"; Daubigny, "Springtime"; Mettling, "Portrait of a Boy"; Raffaelli, "Winter Landscape"; Dupré, "Three Oaks" and "The Landing"; Madame Lebrun, "Portrait of a Lady"; Gaugengigl, "The Quartet"; Delacroix, "Return of Columbus to Court of Ferdinand"; Hobbema, "The Mill"; and Wyant, "Landscape." This most important series was installed in the same inclosure it had previously occupied, the northwest room of the Gallery, opposite that containing the valuable collection of Mr. Ralph Cross Johnson.

The other loans were as follows: From Mrs. Dora B. Amateis, of Falls Church, Va., portrait bust of the artist's son, in marble, by Louis Amateis. From Col. John Biddle, United States Army, portrait in oil of Maj. John Biddle, United States Army, by Thomas Sully. From Miss Susan D. Biddle, of Detroit, Mich., portrait of Eliza Bradish Biddle, wife of Maj. Biddle, by Thomas Sully. From Dr. Nathan Boyd, of Washington, copy of Titian's portrait of his daughter, and portrait of Beatrice Cenci, by G. Mazzolini. From Mr. H. K. Bush-Brown, of Washington, plaster cast of the bronze bust of Lincoln, by Mr. Bush-Brown, at the National Cemetery, Gettysburg. From the United States Capitol, Washington, through Mr. Elliott Woods, superintendent, the bronze doors for the west entrance to the Capitol, designed and sculptured by Louis Amateis. From Mr. Benson B. Moore, of Washington, three oil paintings: "Might is Right," by Z. Noterman; an interior, by L. Fissette, and another interior attributed to Adrian von Ostade. From Mrs. Julian

James, of Washington, an oil painting, "View up the Hudson," by Robert Weir. From Mr. William D. Wheeler, of Washington, a portrait in oil of the artist's daughter, Mrs. John H. Wheeler, and her sons, by Thomas Sully.

The Gallery was fortunate in being able to arrange for two important loan exhibitions, which were successfully carried out and proved exceedingly attractive. They were held in the large central room of the Gallery inclosure in the new Museum building, which they fully occupied, and followed one another closely, only two days intervening. Each was inaugurated by a special evening view, to which invitation was by card, and printed catalogues were issued for both. The first, extending from March 21 to April 21, 1914, was given in the name of the National Association of Portrait Painters, an organization formed for the advancement of art in the United States, the holding of exhibitions, and the ultimate establishment of permanent galleries for the exposition of its own and allied branches of art. The second, which continued from April 23 to June 15, consisted of the works of a single person, the well-known marine painter, Mr. William F. Halsall, of Boston and Provincetown, Mass.

The exhibition by the National Association of Portrait Painters comprised 25 portraits in oil by members of the Association, constituting the third annual exhibition of the Association in New York, and also shown at the Carnegie Institute in Pittsburgh, Pa. The artists and the paintings by which they were represented were as follows:

John W. Alexander. Portrait of Alexander C. Humphreys, LL. D., president, Stevens Institute of Technology.

Cecilia Beaux. Portrait of Mrs. William McL. Ritter.

Frank W. Benson. Portrait.

Adolphe Borie. Portrait of Mr. Eckley Brinton Coxe, jr.

William M. Chase. Portrait of the Artist, and Portrait of Mrs. Hall.

Brenetta Herrman Crawford. Portrait of Sarah Guernsey Bradley.

Earl Stetson Crawford. Portrait (lent by Countess Santa Eulalia), and Signorina Marguerita.

Howard Gardiner Cushing. Portrait of Miss Ruth St. Denis.

Lydia Field Emmet. Portrait of a Lady.

Charles Dana Gibson. Study.

Victor D. Hecht. Portrait of Mr. Charles Knoedler.

Robert Henri. "Pat."

Henry Salem Hubbell. Portrait of George Harris, D. D., president emeritus, Amherst College.

John C. Johansen. Portrait of Miss Virginia G., and Portrait of Mr. James Howard Kehler.

De Witt M. Lockman. Portrait group, "At the Ball," and Portrait of Mr. Sidney G. De Kay.

George Luks. Portrait.

Ellen Emmet Rand. Portrait of M. Gilibert.

S. Montgomery Roosevelt. Portrait of Miss J. H., and Portrait of M. A. de la G.

William T. Smedley. "The Shipbuilder."

Irving R. Wiles. "Laughing Girl."

The exhibition of marine paintings by Mr. William F. Halsall, of Boston, consisted of 56 pieces, the most conspicuous and important being a large canvas, about 10 feet high by 20 feet long, entitled "Our Glory—Battleship Oregon," which represents this famous man-of-war in pursuit of the Spanish cruiser *Cristobal Colon* during the naval engagement off Santiago de Cuba, in 1898, and for the purchase of which for the Government a bill is now pending before Congress. At the close of the exhibition, on June 15, three of the paintings were retained on more extended loan. One of these was the picture of the *Oregon*, the others being "The Ocean Rover" and "Like a Sheeted Ghost." Following is a complete list of the paintings shown:

Our Glory—Battleship Oregon.

The Ocean Rover.

Cloudy Day—Highland Light, Cape Cod.

Coronado Beach. (Owned by Mr. H. E. Baker, of Niagara Falls, N. Y.)

Surf—Easterly Weather.

Square and Fore-and-Aft Rig. (Owned by Mr. Theodore Hastings, of Boston, Mass.)

Clouds. (Owned by Miss Elizabeth Cheney, of Boston, Mass.)

Point Loma. (Owned by Mr. H. E. Baker, of Niagara Falls, N. Y.)

An Opalescent Sea.

Provincetown Harbor.

A Morning Breeze. (Owned by Mr. Theodore Hastings, of Boston, Mass.)

The Sentinel.

Sand Dunes—Cape Cod.

On the Georges.

St. Johns—Wood Boat.

Easterly Weather.

A Winter Knockabout.

Haul Out to Windward.

A Lee Shore.

In Pursuit. (Owned by Mrs. Louise Hughes, of Washington.)

Too Rough to Fish. (Owned by Mr. H. H. Fay, of Boston, Mass.)

The Mid-Watch. (Owned by Mr. Charles Francis Douse, of Boston, Mass.)

In Pacific Seas.

Tropical Seas.

On the Penobscot.

Pilot's Flare.

Wing and Wing.

Summer Moonlight. (Owned by Mrs. B. P. Cheney, of Boston, Mass.)

When Sleep Falleth on Men. (Owned by Mr. Marston Harding, of Lexington, Mass.)

A Dory Race—Provincetown.

A Vineyard Fisherman.

Mayflower—First Morning at Sea. (Owned by Mr. Carl F. Kaufman, of Boston, Mass.)

The Coming Fog. (Owned by Mrs. Carl F. Kaufman, of Boston, Mass.)

Mary and John. (Owned by Mrs. Elizabeth S. Cheney, of Boston, Mass.)

Like a Sheeted Ghost. (Owned by Mrs. Carl F. Kaufman, of Boston, Mass.)

Reefing Topsails. (Owned by Mr. Henry A. Wyman, of Boston, Mass.)

Moonlight. (Owned by Mr. M. O. Adams, of Boston, Mass.)

Coast of Maine.

Hove To. (Owned by Mr. William Whitman, of Brookline, Mass.)

A Winter's Calm. (Owned by Mr. H. H. Fay, of Boston, Mass.)

Camden Hills. (Owned by Mr. Henry O. Cushman, of Boston, Mass.)

Surf.

Rain and Wind.

The Graves Light.

South West Wind.

A Pilgrim Ship.

Surf and Sky.

Becalmed.

Down East.

Stormy Morning.

Sketch—Cuba.

Sketch—Cuba.

Coming Squall.

Becalmed.

Moonlight—Gloucester Harbor.**Moonlight.**

Two paintings, both from the Evans collection, were, at the request of the artists, lent for exhibition. One was the painting by William Sergeant Kendall, entitled "An Interlude," which was shown at a special exhibition of works by Mr. Kendall in November, 1913, at Yale University, where this artist had recently been appointed director of the School of Fine Arts. The other was the canvas by Mr. John W. Beatty, entitled "Plymouth Hills," which was sent to the Anglo-American Exposition in London, May to October, 1914, to celebrate the Century of Peace and Progress of the English Speaking People.

The advisory committee on the National Gallery of Art, which is wholly honorary in its relations to the Museum, its members serving without compensation, reported on a number of tenders of gifts, some of which were found to be acceptable and others not. A few of the paintings in the collection were copied by artist students, and photographs of quite a number were furnished to writers for reproduction in papers and books on art. All paintings permanently acquired were photographed and glazed, and pedestals were provided for the statuary received.

The entire loan collection of Dr. George Reuling, of Baltimore, consisting mainly of early American paintings, was returned to the owner, and a number of other loans were also reclaimed.

ART TEXTILES.

Of eight accessions received for this collection, four were gifts and four loans, all but one coming from residents of Washington. The gifts comprised a piece of rare point de France et Personages from Miss Emily Tuckerman, a piece of Mechlin lace of the nineteenth century from the late Mrs. Elizabeth C. Hobson, through Mrs. Richard G. Lay, a cape of Mechlin lace from Mrs. Arnold Hague, and two pieces of Spanish macramé lace called "Gothic collars" from Mrs. Richard G. Lay.

The loans were as follows: Eight pieces of lace, consisting of Russian pillow lace, silk maltese bobbin lace, French blonde de Caen, Spanish blonde, Valenciennes, and an English thread lace collar, besides two hand-wrought undersleeves from the Misses Long; an antique Persian silk prayer rug, a carved ivory plaque, a silver plaque, and a carved ivory crosier from Mrs. Christian D. Hemmick; and a square of Gobelin tapestry of the Savonnerie period from Mrs. A. M. Van Dyke, of Lawtey, Fla.

Owing to the illness of Mrs. James W. Pinchot, under whom the direction of this collection continues, not much work was put upon it during last year, but it remains in excellent condition and is the subject of much attention from visitors. It is hoped that there will be an early increase in permanent accessions and that the material may soon be arranged on a more systematic basis. As it is, the collection is one of the most important displayed in any of the museums of this country.

MISCELLANEOUS.

VISITORS.

The total attendance of visitors at the new building aggregated 267,728 for week days and 61,653 for Sundays, the daily average for the former having, therefore, been 855, and for the latter 1,185. The total number who visited the older Museum building was 146,533, a daily average of 468, and the Smithsonian building, 102,645, a daily average of 328. There has been a steady increase in the attendance at the new building since it was first opened to the public, and a certain falling off at the other two buildings, owing to the dismantling of many of the exhibition halls by the withdrawal of the natural history exhibits. This condition is only temporary, however, and will soon be remedied by the rapid progress which is being made in the installation of the art industrial collections.

The following tables show, respectively, the attendance of visitors during each month of the past year and for each year since 1881, when the older Museum building was first opened to the public:

Number of visitors during the year ending June 30, 1914.

Year and month.	Older Museum Building.	New Museum Building.	Smithso- nian Building.	Year and month.	Older Museum Building.	New Museum Building.	Smithso- nian Building.
1913.				1914.			
July.....	12,870	21,108	9,345	January.....	7,133	20,977	5,609
August.....	19,371	29,630	13,238	February.....	8,563	22,040	5,434
September.....	16,459	27,669	11,730	March.....	10,430	25,340	6,592
October.....	12,454	30,752	9,287	April.....	18,256	38,860	12,002
November.....	8,144	29,537	6,391	May.....	11,570	34,315	7,799
December.....	8,145	21,524	6,496	June.....	13,138	27,614	8,030
				Total.....	146,533	329,381	102,645

Number of visitors to the Museum and Smithsonian Buildings since 1881.

Year.	Older Museum Building.	New Museum Building.	Smithso- nian Building.	Year.	Older Museum Building.	New Museum Building.	Smithso- nian Building.
1881.....	150,000	.....	100,000	1898-99.....	192,471	.....	116,912
1882.....	167,455	.....	152,744	1899-1900.....	225,440	.....	133,147
1883.....	202,188	.....	104,823	1900-1.....	216,556	.....	151,563
1884 (half year).....	97,661	.....	45,565	1901-2.....	173,888	.....	144,107
1884-85 (fiscal year)	205,026	.....	105,993	1902-3.....	315,307	.....	181,174
1885-86.....	174,225	.....	88,960	1903-4.....	220,778	.....	143,988
1886-87.....	216,562	.....	98,552	1904-5.....	235,921	.....	149,380
1887-88.....	249,665	.....	102,863	1905-6.....	210,886	.....	149,661
1888-89.....	374,843	.....	149,618	1906-7.....	210,107	.....	153,591
1889-90.....	274,324	.....	120,894	1907-8.....	299,659	.....	237,182
1890-91.....	286,426	.....	111,669	1908-9.....	245,187	.....	198,054
1891-92.....	269,825	.....	114,817	1909-10.....	228,804	50,403	179,163
1892-93.....	319,930	.....	174,188	1910-11.....	207,010	151,112	167,085
1893-94.....	195,748	.....	103,910	1911-12.....	172,182	281,887	143,134
1894-95.....	201,744	.....	105,658	1912-13.....	173,858	319,806	142,420
1895-96.....	180,505	.....	103,650	1913-14.....	146,533	329,381	102,645
1896-97.....	229,606	.....	115,709				
1897-98.....	177,254	.....	99,273	Total.....	7,447,574	1,132,589	4,492,092

BEQUESTS.

Although the Museum has received many and some exceedingly valuable additions to its collections by bequest, it is only recently that financial assistance has been rendered it in this way. On the death of Dr. Isaac Lea, publisher and eminent naturalist of Philadelphia, in 1886, the Museum found itself in possession of his unrivaled collection of fresh-water mollusks of the family Unionidæ. His daughter, Miss Frances Lea, retained a deep interest in this collection, becoming, in fact, its patroness, and by the frequent gift of both specimens and of money for making purchases, she aided most materially in its enrichment. It remains to-day by far the most important and comprehensive collection of its kind in the world. Married in 1890, the daughter lived but four years longer, and on her demise she left to the Museum the fine series of gems and precious stones which her father had also assembled. Her trust in both collections was then assumed and faithfully continued by her husband, the Rev. Dr. Leander Trowbridge Chamberlain, who was made an honorary custodian in the Museum in 1897 and an honorary associate in 1905. The report of last year contains a brief account of Dr. Chamberlain's relations to the Museum and the announcement of his death at Pasadena, Cal., on May 9, 1913. In his will, offered for probate in New York City on July 23, 1913, generous provision is made for perpetuating the assistance so long rendered in person, a

benefaction of unusual importance to the Museum. At the close of the year the will was still in course of settlement, but its final execution is not expected to be much longer delayed. Its terms with reference to the Museum are as follows:

"Seventh: I give and bequeath to the Smithsonian Institution in the City of Washington and District of Columbia, the sum of twenty-five thousand dollars (\$25,000), in trust, the same to constitute a permanent fund which shall be known as the 'Frances Lea Chamberlain Fund,' the income of said fund to be used under the direction of the Secretary of the Board of Regents of said Institution, for promoting the increase, and the scientific value and usefulness, of the collection of gems and gem material, known as the 'Isaac Lea Collection' in the department of minerals in the United States National Museum, the said collection having been chiefly collected and given by me in honor of Dr. Isaac Lea and his only daughter, Frances Lea Chamberlain.

"Eighth: I give and bequeath to the Smithsonian Institution in the City of Washington and District of Columbia, the further sum of ten thousand dollars (\$10,000), the same to constitute a permanent fund which shall be known as the 'Frances Lea Chamberlain Fund,' the income of said fund to be used, under the direction of the Secretary of the Board of Regents of said Institution, for promoting the scientific value and usefulness of the collection of mollusks, known as the 'Isaac Lea Collection,' in the department of mollusks in the said Smithsonian Institution."

Another testament, executed during the year, in which the Museum is made a beneficiary, is also of special interest in that it was made by Miss Lucy Hunter Baird, daughter of Prof. Spencer Fullerton Baird, the first assistant secretary in charge of the National Museum and the second secretary of the Smithsonian Institution. The death of Miss Baird occurred in Philadelphia, where she had long resided, on June 19, 1913. The articles in her will relating to the Museum were as follows:

"Fourth: * * * to the National Museum in the City of Washington, D. C., all articles deposited by my father, Spencer F. Baird, my mother, Mary H. C. Baird, or myself, in its keeping or that of the Smithsonian Institution with the exception of the specific bequests to the Smithsonian Institution contained in this Will. If there be any China of which I have made no other disposition, of any value to the Museum, I desire that it shall be placed therein.

"To the Smithsonian Institution, the copies of my father's own books containing his notes in his own handwriting, also the books by Audubon or any other works on natural history, annotated in my father's writing, to be kept forever in a case together.

"To the National Museum or to the Smithsonian Institution as my Executor shall deem best any pictures or books not otherwise disposed of, which they may desire."

By further terms of the will the Smithsonian Institution is made the residuary legatee in a certain trust estate, which, when released, is to constitute a trust fund known as "'The Spencer Fullerton Baird Fund,' the interest from which shall be devoted under the direction of the Smithsonian Institution to the expenses, in whole or in part, of scientific and biological research or for the purchase of specimens of natural objects or archeological specimens." The Museum may expect to benefit from expenditures from this fund. Under the article above quoted the Museum received early in the year from the executor of the estate of Miss Baird several hundred objects, comprising books, engravings and paintings, pottery, glassware, bronzes, photographs, historical objects, and personal relics of Prof. Baird, the last including a gold and a silver medal which had been presented to him in recognition of his important work in fish culture.

PUBLICATIONS.

The number of volumes issued during the year was 14, and of separate papers, 58. The former consisted of the annual reports of the Museum for 1912 and 1913; volumes 44, 45, and 46 of the Proceedings; and the following Bulletins, namely: No. 50, Part VI, "The Birds of North and Middle America," by Robert Ridgway, containing descriptions of the woodpeckers, barbets, toucans, puff birds, jacamars, kingfishers, todies, motmots, goatsuckers, potoos, barn owls, and eared owls; No. 71, "A monograph of the Foraminifera of the North Pacific Ocean, Part III, Lagenidæ," and "Part IV, Chlostromellidæ, Globigerinidæ, Nummulitidæ," by Joseph A. Cushman; No. 80, "A descriptive account of the building recently erected for the departments of natural history of the United States National Museum," by Richard Rathbun; No. 83, "Type species of the genera of Ichneumon flies," by Henry L. Viereck; No. 84, "A contribution to the study of the Ophiurans of the United States National Museum," by René Kœhler; No. 85, "A monograph of the jumping plantlice or Psyllidæ of the New World," by David L. Crawford; No. 86, "A monograph of the genus *Chordeiles* Swainson, type of a new family of goatsuckers," by Harry C. Oberholser; and No. 87, "Culture of the ancient Pueblos of the Upper Gila River region, New Mexico and Arizona" (Second Museum-Gates Expedition), by Walter Hough. Bulletin No. 67, entitled "Directions for collecting and preserving insects," by Nathan Banks, was reprinted in a limited edition to meet the continuous demand for this popular pamphlet of instructions.

Of the 58 papers issued separately for prompt distribution to specialists, 5 were from volume 45, 35 from volume 46, and 9 from

volume 47 of the Proceedings, the other 9 constituting parts of the Contributions from the National Herbarium.

Approximately 77,800 copies of the above volumes and separates were distributed to the addresses on the regular mailing list, in addition to which about 15,400 publications of last year and previous years were sent out in response to special applications.

Besides the foregoing, many reports on Museum material were published by other bureaus of the Government and by private institutions, all of which are cited in the bibliography. Those printed in the Smithsonian Miscellaneous Collections to insure prompt issue numbered 31, as follows: "New races of antelopes from British East Africa," "New antelopes and carnivores from British East Africa," "The white rhinoceros," "New races of ungulates and primates from equatorial Africa," "New races of carnivores and baboons from equatorial Africa and Abyssinia," "Four new subspecies of large mammals from equatorial Africa," and "New subspecies of mammals from equatorial Africa," by Edmund Heller; "Descriptions of three new African weaver-birds of the genera *Estrilda* and *Granatina*," "Descriptions of four new African thrushes of the genera *Planesticus* and *Geocichla*," "Descriptions of six new African birds," "Descriptions of five new African weaver-birds of the genera *Othypantes*, *Hypargos*, *Aidemosyne*, and *Lagonosticta*," "Descriptions of ten new African birds of the genera *Pogonocichla*, *Cossypha*, *Bradypterus*, *Sylvietta*, *Melaniparus* and *Zosterops*," and "Descriptions of eight new African bulbuls," by Edgar A. Mearns; "New Lower Cambrian subfauna," "Cambrian formations of the Robson Peak District, British Columbia and Alberta, Canada," "Dikelocephalus and other genera of the Dikelocephalinae," and "The Cambrian faunas of Eastern Asia," by Charles D. Walcott; "The comparative histology of the femur," by J. S. Foote; "*Populus Macdougalii*: A new tree from the Southwest," by J. N. Rose; "Great stone monuments in history and geography," by J. Walter Fewkes; "A new shrub of the genus *Esenbeckia* from Colombia," by K. Krause; "Fifty-one new Malayan mammals," by Gerrit S. Miller, jr.; "Notes on the recent crinoids in the British Museum," and "Notes on some specimens of a species of Onychophore (*Oroperipatus corradoi*) new to the fauna of Panama," by Austin Hobart Clark; "A new genus of Mallophaga from African guinea fowl in the United States National Museum," by John Howard Paine; "New Sapindaceae from Panama and Costa Rica," by L. Radlkofer; "Anthropological work in Peru in 1913, with notes on the pathology of the ancient Peruvians," by Aleš Hrdlička; "Descriptions of five new mammals from Panama," by E. A. Goldman; "On the relationship of the genus *Aulacocarpus*, with description of a new Panamanian species," by H. Pittier; "A new ceratopsian dinosaur from the Upper Cretaceous

of Montana, with note on *Hypacrosaurus*," by Charles W. Gilmore; and "Explorations and field-work of the Smithsonian Institution in 1912," being a summary of expeditions participated in during the year by the Smithsonian Institution and its bureaus and resulting, for the most part, in the acquisition of material for the Museum.

In addition to the publications, the editorial office has charge of all miscellaneous printing and binding, which includes a large variety of work.

LIBRARY.

The Museum library received 1,917 volumes, 1,723 pamphlets, and 132 parts of volumes during last year, and now contains 43,609 volumes and 73,765 pamphlets and other unbound papers. The central library is in the new building, where are kept the general works of reference and the publications relating to anthropology, zoology, and geology. The former library quarters in the older building are utilized for the works relating to the arts and industries, history, and botany, besides which each Museum division and each principal administrative office is allowed to retain in its immediate possession the books especially and solely pertaining to the subject of its affairs. The last mentioned, which at present number 30, are called sectional libraries. The central library was quite thoroughly organized and arranged before the close of the previous year, and during last year good progress in the same direction was made with the collection in the older building. The card cataloguing has been kept well up to date and of the scientific depository set of cards received from the Library of Congress about one-half, or approximately 28,000, were alphabetically filed.

For the use of the staff in the study of collections over 5,000 books were borrowed during the year from other Government libraries, mainly the Library of Congress.

A very large number of publications, the accumulation of many years, the most of which had never been actually united with the library, were critically examined and the greater proportion, consisting of duplicates or of works not necessary to the Museum, were rejected and disposed of.

New avenues of exchange insuring the acquisition of important publications not otherwise obtainable by the Museum were established. By bequest of Miss Lucy H. Baird, the library received about 750 volumes, many of them rare and costly, which had belonged to Prof. Spencer F. Baird, with others more recently added to the collection by the testator. Among other contributors were Dr. William H. Dall, Dr. O. P. Hay, Dr. C. W. Richmond, Dr. Edgar A. Mearns, Mr. Alfred Klakring, and Dr. Harriet Richardson Searle.

The sectional library of the division of mollusks contains approximately 7,500 titles presented by its curator, Dr. Dall, beginning with a large initial gift in 1892, which has been added to from year to year. Constituting its principal feature, this collection is supplemented by many works from other sources, including the bequest of Dr. Isaac Lea, which renders it one of the most complete consultative libraries on the subject in the country. A revised catalogue completed during the year furnishes a ready index to its contents.

The library is, unfortunately, confronted with a condition which seriously menaces the preservation of a large proportion of its contents, and it is important that this should be early remedied. Perhaps two-thirds of the publications it receives are in paper covers, a large share of these being parts of volumes. With the very limited funds available for the purpose, the amount of binding that can be done in any year is scarcely appreciable, and as long as the volumes remain unprotected, constant use causes their rapid deterioration and ultimate destruction, and most of these unbound works are not replaceable.

MEETINGS AND CONGRESSES.

The auditorium and other rooms in the new building were frequently used during the year for meetings and public gatherings having objects akin to those of the Institution, and also by several bureaus of the Government for official purposes.

The lecture courses of The Washington Society of the Fine Arts, three in number, were held in the auditorium, as during the previous year, between November 1 and April 15. They consisted of six lectures on architecture and the allied arts, given on Wednesday evenings; six lectures on modern masters in art, given on Tuesday evenings; and five lectures on the development of opera, given on Saturday evenings. The first two courses were illustrated with lantern slides, while piano and vocal illustrations were employed in connection with the last. For its regular meetings, which numbered 18, the Anthropological Society of Washington occupied the large assembly hall, except on one occasion when the auditorium was utilized. These meetings, which were held at 4.30 o'clock in the afternoon, generally on the first and third Tuesday of each month, continued from October 28 to June 4. The Spanish American Athenaeum was given the use of the auditorium on the evenings of February 3 and 25 for its meetings and lectures. For the thirty-second stated meeting of the American Ornithologists' Union, which was in session during the mornings and afternoons from April 6 to 8, the auditorium and other accommodations were granted.

The National Academy of Sciences, in connection with its annual meeting from April 21 to 23, held only its public sessions at the Museum, which were devoted to the reading of papers during the morning and afternoon of the 22d, and the inauguration of the William Ellery Hale Lectures by Sir Ernest Rutherford, of the University of Manchester, England, who spoke on the afternoons of the 21st and 23d on "The constitution of matter and the evolution of the elements."

On the evening of October 20, 1913, His Serene Highness the Prince of Monaco delivered an address under the auspices of the Washington Academy of Sciences and the Anthropological Society of Washington, his subject being "Researches in oceanography and anthropology," but he spoke mainly upon the former topic, in which his own remarkable explorations and studies are so well and widely known. The lecture was illustrated with lantern slides and motion pictures, all relating to the work in connection with his own vessels, and the latter were of a remarkable character, including vivid scenes at sea, the depiction of which in this manner had never before been attempted.

On December 10 Dr. Aleš Hrdlička, of the Museum staff, spoke before the Medical Society of the District of Columbia on prehistoric pathology on the American continent, with demonstrations of extensive recently acquired medical and surgical material from the collections of the Museum. An illustrated lecture on the fauna of the Pleistocene asphalt at Rancho La Brea, Cal., was delivered on January 8 by Prof. John C. Merriam, of the University of California, under the auspices of the Washington Academy of Sciences; and on February 4 Dr. Josef Schumpeter, the Austrian exchange professor for Columbia University, lectured under the auspices of the George Washington University on "The Balkan situation." One of the semimonthly meetings of the Washington Society of Engineers, held in the auditorium on February 5, was devoted to addresses on the Navajo, Papago, Pueblo, and Menominee Indians by Dr. Samuel A. Eliot, Mr. Edward E. Ayer, and Mr. William H. Ketcham, members of the United States Board of Indian Commissioners, and by Dr. Joseph K. Dixon, leader of the Rodman Wanamaker expedition, motion pictures taken by this expedition being also shown. A lecture entitled "The musical uplift" was given by Mr. John C. Freund, editor of Musical America, on February 6, under the District of Columbia Chapter of the Guild of American Organists, the Rubinstein Club, and the Piano Teachers' Association; and on March 24 Mr. Henry C. Gauss spoke on "The Braddock trail," before the Columbia Chapter of the Daughters of the American Revolution. "Richard Wagner's Parsifal Dichtung" was the subject of an address before the Germanistic Society of Washington on April 2, by

Dr. Ernst Elster, professor at the University of Marburg, Germany, and exchange professor at Cornell University. The Washington Society of the Archaeological Institute of America met on April 8 to listen to a lecture on "Raphael," illustrated with lantern slides, by Prof. O. S. Tonks, of Vassar College. On the morning of April 17 a special program of American music was rendered under the auspices of the Friday Morning Music Club, and in the evening of the same day Sir William Willcocks, of Cairo, Egypt, lectured before the Home Club of the Department of the Interior, on "Reclamation and drainage in Egypt." The College Women's Association of Washington was given facilities for a meeting on April 21.

There were only three congresses during the year which made any use of the Museum's accommodations, and in connection with each of them but one meeting was held there. The Third International Congress of Refrigeration met in Chicago, but the formal opening session was held in the Museum auditorium on the morning of September 15, 1913, when an address of welcome to the delegates was delivered by the Secretary of State, Hon. William Jennings Bryan. The fourth annual meeting of the American Association for Study and Prevention of Infant Mortality occurred in Washington from November 14 to 17, and the address of its president, Dr. L. Emmett Holt, of New York, was given in the auditorium on the evening of the 14th, followed by an informal reception to Dr. Holt in the exhibition halls on the first floor. The Third International Congress on the Welfare of the Child, under the auspices of the National Congress of Mothers and Parent Teacher Associations, meeting in Washington from April 22 to 27, occupied the auditorium on the evening of the 25th for one of its sessions.

On the evening of April 18, 1914, a reception to the Daughters of the American Revolution was given by the Secretary of the Institution.

The Department of Agriculture held numerous meetings relating to its work, using sometimes the auditorium but more often the larger committee room, and occasionally also the foyer when there were specimens to exhibit. A hearing on the question of establishing Federal grades for commercial corn was given on October 29, 1913, and another relative to the enforcement of the food and drugs act on November 5. The food, dairy, and drug officials of the Bureau of Chemistry met on November 14 and 15; the annual conference of State and district leaders in farm management demonstration and club work was held, under the Office of Farm Management, from December 15 to 18; and the Federal Horticultural Board conducted a hearing on December 18 on the subject of potato quarantine. The Bureau of Plant Industry held weekly afternoon lectures from December 17 to March 11, except during the holiday season, dealing

with various phases of agricultural research and demonstration work by the Department. An apparatus devised by Dr. Wiener, of Vienna, for the treatment of milk was demonstrated by him, under the auspices of the Bureau of Animal Industry, on February 20; and a conference between representatives of the naval stores industry and the Bureau of Chemistry was held on March 5 and 6. A conference between the department and the woolgrowers took place on June 2, 3, and 4, and was accompanied by an excellent exhibition of wool specimens installed in the foyer. On the evening of June 26 the exhibition halls in the first story were opened to afford an opportunity for the officers and employees of the Department to unite in an informal reception to Dr. B. T. Galloway, Assistant Secretary of Agriculture, who had recently resigned from that position to take up university work.

As associated with the objects of the Department of Agriculture may be mentioned here a meeting of the American Pomological Society in conjunction with the Eastern Fruit Growers Association, the Northern Nut Growers Association, and the Society for Horticultural Science, which was held during what was termed "Fruit Week," or from November 17 to 22, 1913. Use was made of the auditorium and committee rooms, and the entire foyer was occupied for exhibition purposes, the display of fruit being exceptionally fine and many prizes being awarded. This meeting, and especially the exhibition, attracted many visitors, who were admitted to the part of the building occupied both day and evening.

At the Twelfth International Congress of Geology, held at Toronto, Canada, August 7 to 10, 1913, the Institution and Museum were represented by Secretary Charles D. Walcott and Dr. George P. Merrill.

SPECIAL EXHIBITIONS.

The competitive designs for the Lincoln Memorial by Mr. Henry Bacon and Mr. John Russell Pope, the Red Cross collection, the relief map of the Gatun dam and locks, and model of the Pedro Miguel locks, mentioned in the last report, remained on exhibition in the foyer of the new building and communicating rooms throughout the year.

The plans submitted in competition for the George Washington memorial building, received on May 2, 1914, were, after inspection by the jury of awards, installed on screens in one of the foyer rooms and opened to public view on May 9. There were also two loan exhibitions of paintings, which are fully described in connection with the National Gallery of Art. One, consisting of 25 portraits by members of the National Association of Portrait Painters, continued from

March 21 until April 21. The other, comprising 55 marine paintings by Mr. William F. Halsall, was held from April 23 until June 15.

ORGANIZATION AND STAFF.

It has been found advisable to change the designations of the two divisions of archeology, which has involved the shifting of responsibility for the custody of certain classes of material but no modification in the staff connected with them. The titles hitherto recognized have been "Prehistoric archeology" and "Historic archeology." In the division bearing the former name were included all antiquities, however modern, from America, while in the other were placed only so-called historic antiquities from other parts of the world. Under the present arrangement, which, though partly put in operation some time ago, was not officially recognized until last year, the divisions are termed "American archeology" and "Old World archeology," respectively, the classification assumed being, therefore, broadly geographical and without reference to the age of the antiquities. This classification is, moreover, more philosophical than the other, as the prehistoric collections of the two worlds do not touch at any point, and the historic phase of Old World archeology connects without break with the prehistoric. Mr. William H. Holmes, head curator of the department of anthropology, will continue the supervision of the division of American archeology, while Dr. I. M. Casanowicz, assistant curator, will be in charge of the division of Old World archeology. Mr. Neil M. Judd, aid in the division of ethnology, was on leave without pay from January 1 to April 30, 1914, to enable him to engage in field work for the Panama-California Exposition. Mr. Joseph B. Leavy was appointed philatelist in the division of history on November 5, 1913. Mr. Thomas W. Sweeny, who had been a preparator in the division of ethnology for many years and had taken an important part in the installation of the exhibition collections in the new building, died on April 4, 1914.

On his appointment as director of the museum of the California Academy of Sciences, Dr. Barton W. Evermann resigned the curatorship of the division of fishes, dating from March 31, 1914. Mr. Alfred C. Weed, aid in the same division, was granted a year's furlough from July 15, 1913, and on January 2, 1914, Dr. John O. Snyder, of Leland Stanford Junior University, began upon the revision of the extensive collection of fishes, as explained elsewhere. Mr. H. K. Haring, of the Bureau of Standards, was designated honorary custodian of the Rotatoria in the division of marine invertebrates on May 1, 1914, and Dr. Nathan Banks resigned his custodianship of the Arachnida in the division of insects on October 22, 1913. Mr. Copley Amory, jr., of Boston, Mass., was appointed honorary collaborator in zoology for two years, beginning June 1, 1914.

Dr. J. N. Rose, associate curator of the division of plants, was granted an indefinite furlough beginning February 19, 1914, to enable him to continue his studies of the Cactaceae under the auspices of the Carnegie Institution of Washington, and Mr. W. R. Maxon was appointed in his place. Mr. Glen P. Van Eseltine was made an aid in the division of plants from September 22, 1913.

Dr. Edgar T. Wherry was appointed assistant curator of mineralogy and petrology on October 25, 1913, in succession to Dr. J. E. Pogue, and Dr. James C. Martin, assistant curator of systematic and applied geology on November 12, in succession to Mr. Chester G. Gilbert. For his long and material assistance in the paleontological work of the Museum, Dr. E. O. Ulrich, of the Geological Survey, was designated honorary associate in paleontology on June 9, 1914, and Mr. Douglas B. Sterrett, also of the Survey, was made honorary custodian of gems and precious stones, dating from February 18. Mr. C. W. Mitman was appointed aid in the division of mineral technology on May 4, 1914.

It is a painful duty to announce the death, near the close of the year, of one of the most important figures in the history of the Museum. Frederick William True was born at Middletown, Conn., July 8, 1858, and received his collegiate education at New York University, from which he was graduated in 1878 as bachelor of science. In 1881 and 1897 he was honored by his alma mater with the degrees of master of science and doctor of laws, respectively. Immediately after leaving college he entered the scientific service of the Government, in which he continued during the remainder of his life.

His first appointment, in 1878, was as expert special agent in the fisheries branch of the Tenth Census, and in 1880 he served as custodian of the collections of the United States Fish Commission at the Berlin Fisheries Exhibition. The following year began his connection with the United States National Museum, in which his duties have been both varied and exacting. From 1881 to 1883 he was librarian, and during the first two of these years also acting curator of the division of mammals, becoming full curator in 1883. With the reorganization of the Museum in 1897, he was made head curator of the department of biology, though retaining direct supervision of the collection of mammals until 1909, when a curator was designated to relieve him of this care.

For nearly 30 years Dr. True was also charged with strictly administrative responsibilities, which greatly interfered with his scientific work. In the early part of the eighties he was designated curator-in-charge to enable him to act for the Assistant Secretary during his absence, the title being changed in 1894 to executive curator, with added duties. Following Dr. Goode's death in 1897 he served for

a short period, in the absence of Dr. Langley, as Acting Secretary of the Smithsonian Institution, and from then until 1901 the administration of the Museum fell mainly on Dr. True's shoulders. In another large field, that of international exposition work, Dr. True also served with distinction, having directed the preparation of the exhibits for, and represented the Institution and Museum at, Nashville in 1897, Omaha in 1898, Buffalo in 1901, Charleston in 1902, St. Louis in 1904, and Portland in 1905. On June 1, 1911, he was called from the Museum to become the Assistant Secretary of the Smithsonian Institution in charge of library and exchanges, which position he was occupying at the time of his death, on June 25, 1914. Dr. True was a member of the American Philosophical Society and the Academy of Natural Sciences of Philadelphia, a corresponding member of the Zoological Society of London, and a fellow of the American Association for the Advancement of Science, besides holding membership in various other societies.

Only those who came closely in contact with Dr. True can properly measure the extent of his worth to the National Museum, which was always uppermost in his mind. Of a retiring disposition, and with no conception of the meaning of rest, he labored unceasingly, going about but little, neglecting sports, though intensely fond of music, and dividing his hours mainly between the Museum and his home study. He was above all a profound student, though apt and thorough in business matters. He did nothing perfunctorily, but went to the bottom of every problem, and everything he undertook was done more by his own hand than in any other case with which I am acquainted. Dr. True was never more happy than when in the library he organized and to which he continued to give attention, but he knew as much of the making of books as he did of their arrangement, and for many years he was the chief adviser in the selection and printing of the Museum publications.

It had been Dr. True's early desire to make a specialty of one of the lower groups of animals, but finding his eyes not equal to the constant use of the microscope, he turned to the other extreme, the group containing the largest of all living animal forms. Although the author of a number of miscellaneous papers on mammals, Dr. True's scientific reputation is mainly based on his studies of the Cetacea, especially the whales, and also on the fact that through his persistent activity he brought together in the Museum one of the largest and most important collections of whales in existence. Owing to the universally large size of the members of this group, museums generally are satisfied with a few examples, which furnish no basis for comparison with the object of determining individual or geographic variations in these monsters of the sea. Through the efforts of Dr. True very much has been done to overcome this disadvantage

in Washington, and when he wrote his splendid monograph of the beaked whales, which are among the rarest objects in our collection, the National Museum was found to possess about one-fourth of all the material available, and of the rare genus *Berardius* it had nearly one-half. Besides visiting and personally inspecting the specimens in many other museums, he assembled an immense series of photographs of specimens and had at his command a vastly greater amount of material than any cetologist before him. Visits to the whale fishery in Newfoundland gave him exceptional opportunity for the investigation of specimens freshly caught, and the studies there made entered into the volume on the whalebone whales of the western North Atlantic compared with those of European waters, in which, contrary to previous deductions, the whalebone whales of both sides of the Atlantic were proved to be identical. In later years Dr. True began to give attention to the fossil whales of North America, regarding which he had already made some noteworthy discoveries. It is no exaggeration to say that Dr. True had become the greatest living authority on whales, and in that respect took rank beside Eschricht, Lilljeborg, Van Beneden, and Flower. He died in the midst of his studies, surrounded by rich material offering golden opportunities for the future.

THE MUSEUM STAFF.

[June 30, 1914.]

CHARLES D. WALCOTT, Secretary of the Smithsonian Institution, Keeper *ex officio*.

RICHARD RATHBUN, Assistant Secretary, in charge of the United States National Museum.

W. DE C. RAVENEL, Administrative Assistant.

SCIENTIFIC STAFF.

DEPARTMENT OF ANTHROPOLOGY:

William H. Holmes, Head Curator.

Division of Ethnology: **Walter Hough**, Curator; **Nell M. Judd**, Aid; **J. W. Fewkes**, Collaborator; **Arthur P. Rice**, Collaborator.

Division of American Archeology: **William H. Holmes**, Curator; **E. P. Upham**, Aid; **J. D. McGuire**, Collaborator.

Division of Old World Archeology: **I. M. Casanowicz**, Assistant Curator.

Division of Physical Anthropology: **Aleš Hrdlička**, Curator; **R. D. Moore**, Aid.

Division of Mechanical Technology: **George C. Maynard**, Curator.

Division of Graphic Arts: **Paul Brockett**, Custodian; **Ruel P. Tolman**, Aid.

Section of Photography: **T. W. Smillie**, Custodian.

Division of History: **A. Howard Clark**, Curator; **T. T. Belote**, Assistant Curator.

Associates in Historic Archeology: **Paul Haupt**, **Cyrus Adler**.

DEPARTMENT OF BIOLOGY:

Leonhard Stejneger, Head Curator; **James E. Benedict**, Chief of Exhibits.

Division of Mammals: **Gerrit S. Miller, Jr.**, Curator; **Ned Hollister**, Assistant Curator.

Division of Birds: **Robert Ridgway**, Curator; **Charles W. Richmond**, Assistant Curator; **J. H. Riley**, Aid.

Division of Reptiles and Batrachians: **Leonhard Stejneger**, Curator; **R. G. Paine**, Aid.

Division of Fishes: **Barton A. Bean**, Assistant Curator; **John O. Snyder**, Expert Ichthyologist.

Division of Mollusks: **William H. Dall**, Curator; **Paul Bartsch**, Assistant Curator; **William B. Marshall**, Aid; **Mary Breen**, Collaborator.

Division of Insects: **L. O. Howard**, Curator; **J. C. Crawford**, Associate Curator; **Paul R. Myers**, Aid.

Section of Hymenoptera: **J. C. Crawford**, in charge.

Section of Myriapoda: **O. F. Cook**, Custodian.

Section of Diptera: **Frederick Knab**, Custodian.

Section of Coleoptera: **E. A. Schwarz**, Custodian.

Section of Lepidoptera: **Harrison G. Dyar**, Custodian.

Section of Orthoptera: **A. N. Caudell**, Custodian.

Section of Hemiptera: **Otto Heidemann**, Custodian.

Section of Forest Tree Beetles: **A. D. Hopkins**, Custodian.

Division of Marine Invertebrates: **Richard Rathbun**, Curator; **Mary J. Rathbun**, Assistant Curator; **Austin H. Clark**, Assistant Curator; **C. R. Shoemaker**, Aid; **H. K. Herring**, Custodian of the Rotatoria; **Harriet Richardson Searle**, Collaborator.

DEPARTMENT OF BIOLOGY—Continued.*Division of Marine Invertebrates—Continued.*

Section of Helminthological Collections: C. W. Stiles, Custodian; B. H. Ransom, Assistant Custodian; P. E. Garrison, United States Navy, Assistant Custodian.

Division of Plants (National Herbarium): Frederick V. Coville, Curator; W. R. Maxon, Associate Curator; P. C. Standley, Assistant Curator; Glen P. Van Eseltine, Aid.

Cactaceæ, Crassulaceæ, and Miscellaneous Mexican Collections: J. N. Rose, Custodian.

Section of Grasses: Albert S. Hitchcock, Custodian.

Section of Cryptogamic Collections: O. F. Cook, Assistant Curator.

Section of Higher Algæ: W. T. Swingle, Custodian.

Section of Lower Fungi: D. G. Fairchild, Custodian.

Section of Diatoms: Albert Mann, Custodian.

Associates in Zoology: Theodore N. Gill, C. Hart Merriam, W. L. Abbott, Edgar A. Mearns, United States Army (retired).

Associates in Botany: Edward L. Greene, John Donnell Smith, J. N. Rose. Collaborator in Zoology: Copley Amory, jr.

DEPARTMENT OF GEOLOGY:

George P. Merrill, Head Curator.

Division of Physical and Chemical Geology (Systematic and Applied): George P. Merrill, Curator; James C. Martin, Assistant Curator.

Division of Mineralogy and Petrology: F. W. Clarke, Curator; Edgar T. Wherry, Assistant Curator; Douglas B. Sterrett, Custodian of Gems and Precious Stones.

Division of Paleontology: R. S. Bassler, Curator.

Section of Invertebrate Paleontology: T. W. Stanton, Custodian of Mesozoic Collection; William H. Dall, Associate Curator of Cenozoic Collection; T. Wayland Vaughan, Custodian of Madreporarian Corals.

Section of Vertebrate Paleontology: James W. Gidley, Assistant Curator of Fossil Mammals; Charles W. Gilmore, Assistant Curator of Fossil Reptiles.

Section of Paleobotany: David White, Associate Curator; A. C. Peale, Aid; F. H. Knowlton, Custodian of Mesozoic Plants.

Associates in Paleontology: Frank Springer, E. O. Ulrich.

DIVISION OF TEXTILES:

Frederick L. Lewton, Curator.

DIVISION OF MINERAL TECHNOLOGY:

Chester G. Gilbert, Curator; C. W. Mitman, Aid.

NATIONAL GALLERY OF ART:

William H. Holmes, Curator.

ADMINISTRATIVE STAFF.

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Disbursing Agent, W. I. Adams.

Superintendent of Construction and Labor, J. S. Goldsmith.

Editor, Marcus Benjamin.

Editorial Clerk, E. S. Steele.

Assistant Librarian, N. P. Scudder.

Photographer, T. W. Smillie.

Registrar, S. C. Brown.

Property Clerk, W. A. Knowles.

Engineer, C. R. Denmark.

LIST OF ACCESSIONS TO THE COLLECTIONS DURING THE FISCAL YEAR 1913-1914.

[Except when otherwise indicated, the specimens were presented, or were transferred by bureaus of the Government in accordance with law.]

ABBOTT, DR. WILLIAM L.: About 839 mammals, 701 bird skins, 6 skeletons, 2 nests and 2 eggs of birds, 3 skeletons and a skin of reptiles, 9 baskets and a specimen of native cloth, from Dutch Borneo, collected by Mr. H. C. Raven (56376; 56895); ethnological material and a few mammals, collected by Dr. Abbott in Halmahera Island, northwestern New Guinea, Ambon and eastern Celebes (in all 15 localities) (56963).

ABERCROMBIE, Miss. (See under Mrs. Thomas Hamilton Wilson.)

ABERFOYLE MANUFACTURING COMPANY, Chester, Pa.: 25 2-yard lengths and 116 $\frac{1}{2}$ -yard samples of fancy dress goods and shirtings made from cotton, cotton and spun silk, and cotton and viscose silk (56670).

ADAMS, CHARLES FRANCIS, Washington, D. C.: Full-length portrait, in oil, of Mr. Charles Francis Adams, by Robert W. Vonnoh (55690: loan).

ADAMS, MRS. CHARLES FRANCIS, Washington, D. C.: Portrait, in oil, of Mr. Charles Francis Adams, by Robert W. Vonnoh (55689: loan).

ADAMS, ORR J., Grand Junction, Colo.: 2 fossil tree trunks impregnated with carnotite (57125: purchase).

ADELAIDE SILK MILLS, Allentown, Pa.: 6 specimens of tie silks (57127).

AGRICULTURE, DEPARTMENT OF:

Bureau of Animal Industry: Collection of wools and woollen products

AGRICULTURE, DEPARTMENT OF—Contd.

Illustrating methods of grading and manufacture, with suggested improvements in breeding and marketing raw wools (57073).

Bureau of Biological Survey: 3 living specimens of *Opuntia* collected by Mr. Stokley Ligon near Tularosa, N. Mex. (55647); 320 plants, including 19 living Cactaceae, collected in Arizona by Mr. E. A. Goldman (55647; 55803; 55829; 55835; 56389; 56731); plants principally from the southeastern part of the United States, collected by Mr. Ernest G. Holt (55697; 55710; 55966; 56983); plants from the southeastern part of the United States, Maryland and Maine, collected by Mr. W. L. McAtee (55803; 55966; 56708); 40 plants from Alabama, collected by Mr. A. H. Howell (55749; 57019); land shells from Alabama and Oregon, collected by Mr. Howell and Mr. L. J. Goldman (57070; 57093); 2 eggs of the western nighthawk, *Chordeiles virginianus henryi*, from Arizona (55844); 125 mammals from Patagonia (56067); 24 birds in alcohol, principally from Panama and Porto Rico (56169; 56178; 56952); 2 specimens of *Heliconia* from Panama (56566); 8 plants collected in Arizona by Mr. Vernon Bailey (56265); 2 snakes, *Bascantion flaviventris*, and a salamander, *Ambystoma tigrinum*, from Utah (56291); 14 bird eggs from

AGRICULTURE, DEPARTMENT OF—Contd.

New Mexico and Alaska (56371); mounted ocelot, *Felis pardalis atdescens* (56916).

Bureau of Entomology: 84 Diptera from the vicinity of Washington, collected by Mr. C. T. Greene (55678); 114 Coleoptera and 100 Hemiptera, determined by Mr. A. L. Montandon (55790; 55838; 56011); 66 insects collected by Mr. W. D. McLeod, Howkan, Alaska (56068); approximately 500 miscellaneous insects and 1,133 Diptera, from the vicinity of Washington, D. C., collected by Mr. R. C. Shannon (56129); 8 living specimens of Cactaceae from Arizona, collected by Mr. C. H. Popenoe (56141); about 300 insects collected in Arizona by Mr. W. D. Pierce (56142); about 1,500 insects, mostly Diptera, from Florida and the Bahama Islands, collected by Mr. F. Knab (56174); about 100,000 pinned specimens of insects and 1,000 tubes of insects in alcohol, accumulated by the force engaged in Investigations of Field Crops (56187); about 1,275 insects collected principally in California by Mr. J. R. Horton (56198); about 40 specimens of European weevils bred from alfalfa; also 79 named reared specimens of the genus *Aphycus* (including the types of 3 new species) from the material used by Mr. Timberlake for his revision of the genus (56506); 17 plants collected in Arizona by Mr. H. S. Barber (56571); sowbug, *Porcellio lavis*, collected in China by Mr. Frank N. Meyer (56637); 365 Diptera collected by Mr. W. R. Walton in New Mexico in 1913 (56662); 9 parasitic Hymenoptera (56690); 2 specimens of *Helix aspersa* from San Francisco, Cal., and 4 of *Lymnaea palustris* from Poughkeepsie, N. Y. (56758); type and 3 paratypes of *Leucopis flavicornis* (56863); isopod, *Porcellionides prunosus*, from Porto Colombia, Colombia, taken from orchids in quarantine at New York

AGRICULTURE, DEPARTMENT OF—Contd.

(56922); 13 specimens of isopods, *Porcellio spinicornis* and *P. lavis*, collected in Sacramento by Mr. E. O. Essig (57018).

Forest Service: A piece of creosoted wood attacked by *Limnoria*, *Sphaeroma* and *Xylotrya*, from St. Johns River, Fla., received through Mr. Clyde H. Teesdale, Madison, Wis. (56750); 2 living specimens of *Coryphantha* from South Dakota; and 2 living specimens of *Echinocereus* from Utah, collected by Mr. W. W. Eggleston (56981); 23 photographs of the turpentine and rosin industry (57096).

Bureau of Plant Industry: 775 plants collected in New Mexico, Arizona, Texas and California by Prof. E. O. Wooton (55668; 56192; 56627); 51 plants, chiefly from Texas, collected by Dr. David Griffiths (56627); 141 plants collected by Mrs. Agnes Chase in Texas, Louisiana and Porto Rico (55711; 56646; 56828); 16 plants collected in Turkestan and Siberia by Mr. F. N. Meyer (55711); 2 specimens of *Juncus* from Alabama (55748); 11 plants from Alabama and Louisiana (55895); 4 samples of tan barks collected in the Philippine Islands (55913); 58 plants from California collected by Mr. R. L. Plemmel (55943; 55972; 56102); 34 specimens of Cyperaceae and Juncaceae, from Louisiana, Surinam and the island of Santa Lucia (55972; 56039; 56102); 1,500 plants collected in the western part of the United States by Mr. Albert E. Hitchcock; and a specimen of *Macrozamia moorei* from New Zealand (56268); 9 specimens of Cyperaceae collected in Porto Rico by Brother Hioram and transmitted by Prof. A. S. Hitchcock (56161); 90 specimens of wood from Panama, collected by Prof. H. Pittier during his connection with the Smithsonian Biological Survey of the Panama Canal Zone (56180); specimen of *Deuceya arguta* collected

AGRICULTURE, DEPARTMENT OF—Contd.
 near Aguanga, Cal., by Mr. Franklin Heald (56406); 6,000 specimens of grasses (56570); earthworms from near the Sherman statue, Washington, D. C. (56657); 4 specimens of *Scleria* collected in Cuba by Brother Leon (56674); 3 living specimens of *Opuntia* collected by Prof. C. V. Piper at Croom, Hernando County, Fla. (56730); 28 earthworms from the grounds of the Department of Agriculture (56558; 56759); specimen of *Cereus* from Brazil (56774); 8 specimens of *Juncus* and *Grossularia* collected in Montana by Mr. Frederick V. Coville (56867); 61 plants from Guatemala (56882); 8 specimens of *Oenothera* collected by Mr. H. H. Bartlett (56891); 8 plants collected in Chile by Mr. J. D. Husbands (57022); 1,224 mounted specimens of grasses (57056); 2 photographs of flax, one in flower and the other of mature plants ready for the harvest (57097).

Office of Public Roads: A set consisting of 38 samples of typical road-building rocks, accompanied by physical and petrographic analyses (55716).

AGRICULTURE, DEPARTMENT OF, Suva, Fiji: 2 lizards, *Brachylophus*, from Fiji, received from Mr. Frank P. Tepeon, government entomologist (56496).

AGRICULTURE AND TECHNICAL INSTRUCTION FOR IRELAND, DEPARTMENT OF (FISHERIES BRANCH). (See under Ireland.)

AGUIRRE, DR. RAFAEL TEJADA, Guatemala City, Guatemala: 158 plants from Guatemala (55764; 56189).

ALABAMA CONSOLIDATED COAL AND IRON COMPANY, Birmingham, Ala.: 72-hour foundry coke—one large specimen showing full depth of charge—received at the close of the Louisiana Purchase Exposition, 1904 (57122).

ALABAMA, GEOLOGICAL SURVEY OF, University, Ala.: 13 specimens of plants from Alabama, collected by Mr. Roland M. Harper (55766: exchange).

ALBERENE STONE COMPANY, New York City (through Mr. Chas. D. Harvey): A specimen of ilmenite from Albemarle, Albemarle County, Va. (56519).

ALDRIDGE, Miss MARY G., Auburndale, Mass. (through Mr. G. T. Aldridge, Washington, D. C.): 3 pieces of quilt made by Catherine Van Winkle (great-grandmother of the donor), of Bergen, N. J., between 1775 and 1780 (55825).

ALEXANDER, M., Asheville, N. C.: An exhibition specimen of monazite from Madison County, N. C. (56028: purchase).

ALEXANDRA PARK, Manchester, England (through Mr. Robert Lamb, superintendent): 112 living specimens of Cactaceae, including 18 specimens of *Epiphyllum*, 93 of *Rhipsalis* and 1 of *Pterocactus kuntzei* (55786; 56481; 56736; 56893). Exchange.

ALLEN, EDGAR, & Co., Sheffield, England: 28 specimens of iron alloys (56149).

AMATEIS, Mrs. DORA B., West Falls Church, Va.: Portrait bust, in marble, of the sculptor's son, by Louis Amateis (56078: loan).

AMERICAN COLONIZATION SOCIETY, Washington, D. C. (through the Library of Congress): Specimens of west African woods and textile work of Liberian colonists, Liberian coins, shell money, a game, stamping machine, flags and flag-cloth, rocks and ores (55986).

AMERICAN CROSS-ARM COMPANY, Brooklyn, N. Y.: Douglas fir telegraph cross-arm from the original line of the Western Union Telegraph Company erected in 1869 between Cobre, Nev., and the Utah State line on the Southern Pacific Railroad (56299).

- AMERICAN MUSEUM OF NATURAL HISTORY, New York City: 2 teeth of *Paleomastodon* from the Fayum locality, Egypt (56109); 351 grams of the Deep Springs meteorite and 298 grams of the Hammond meteorite (56124); 2 specimens of *Apodemus peninsulae* and 2 specimens of *Eutamias regulus*, from Potaidon, Korea (56656); casts of 3 specimens of fossil mammals from the later Tertiary (Pliocene?) of Nebraska (56728). Exchange.
- AMERICAN NOVELTY PRINTING AND EMBOSSEING WORKS, Hoboken, N. J.: 2 samples of warp-printed ribbons, a sample of hand-block printed fabric and a sample of embossed velvet (56726).
- AMERICAN TYPE FOUNDERS COMPANY, Jersey City, N. J.: A Bruce type-casting machine of the earliest type extant and a hand mold with the matrix and type cast therein (56115).
- AMERICAN VANADIUM COMPANY, Pittsburgh, Pa.: 5 samples of vanadium-bearing ores from Peru (56833).
- AMICALOLA MARBLE COMPANY, Ball Ground, Ga. (through Mr. C. E. Stedman, Washington, D. C.): A large slab of marble (56058).
- AMORY, COPLEY, sr., Walpole, N. H.: Skin of a trout, *Salvelinus marstonii*, from a lake in Labrador (56062).
- ANDERSON, Mrs. ALEXANDRA KOCSIS, Washington, D. C.: An ancient vase, representing mother and two children, from the Cuzco region, Peru (57087: loan).
- ANDERSON, J. A., Lambertville, N. J.: 3 photographs of fresh-water bryozoans (56012); photograph of a chipmunk, *Tamias striatus*, and of Washington's fishing tackle (56231).
- ANDERSON, WERNER, Balboa, Canal Zone: 12 scavenger flies belonging to the family Phoridae (56485).
- ANDRES, H., Bonn, Germany: 12 specimens of *Pyrola* from Europe (55787).
- ANONYMOUS: An ancient brass, breech-loading cannon (55887).
- ARMSTRONG CORK COMPANY, Lancaster, Pa.: A series of specimens and photographs illustrating the manufacture of linoleum (56498).
- ARNOLD ARBORETUM, HARVARD UNIVERSITY, Jamaica Plain, Mass.: 34 specimens of pines, chiefly from Mexico (56304); 137 plants from the eastern part of the United States (56487). Exchange.
- ARNOLD, B. W., Northeast Harbor, Me.: Specimen of shrubby red cedar, *Juniperus horizontalis*, from Maine (55691).
- ARNOLD, EDWARD, Montreal, Canada: 15 eggs of the fulvous tree duck, *Dendrocygna bicolor*, and 4 eggs of the western solitary sandpiper, *Helodromas solitarius cinnamomeus* (55845: exchange).
- ATWELL, Jos. W., Worton, Md.: Barred owl, *Strix varia*, from Maryland (56256).
- BABBIDGE, Mrs. F. E., San Diego, Cal.: A cannon sight from Morro Castle, obtained by a soldier of the U. S. Signal Corps (56544).
- BAILEY, VERNON, U. S. Department of Agriculture, Washington, D. C.: Teeth and jaw fragments of a fossil mammal (56166).
- BAIRD, Miss LUCY HUNTER (through Mr. Herbert A. Gill, executor, Washington, D. C.): Gold medal presented to Prof. Spencer F. Baird by the Department of Fishculture of the Lower Seine, France, November 30, 1883; silver medal presented to Prof. Baird by the Acclimatization Society, New South Wales, July, 1878; bronze medal, International Exhibition, Philadelphia, 1876; guns and gun barrels; card of invitation to ceremonies and order of proceedings at the dedication of the Washington Monument, February 21, 1885 (55865); historical objects, including the Decoration of the Order of St. Olaf conferred by the King of

- BAIRD, MISS LUCY HUNTER—Continued.
Sweden and Norway upon Prof. Baird in recognition of his services to science; ethnological and archeological specimens, 26 water colors by Ernest Griset, fans, ceramics, bronzes, engravings, photographs and a metronome (57117). Bequest.
- BAKER, A. B., Boston, Mass.: Skin of *Trichoglossus ornatus* (56420).
- BAKER, PROF. CHARLES FULLER, College of Agriculture, University of the Philippines, Los Baños, P. I.: 7 plants, mainly fungi, from Luzon (55849); about 240 chalcids (56706).
- BAKER, CHARLES H., Orlando, Fla.: 10 specimens of *Hicoria* from Florida (56979).
- BAKER, D. T., Ancon, Canal Zone: Specimen of the fruit of a palm collected in Brazil (56776); fruit head of ivory nut palm, *Phytelephas*, from Panama (56825).
- BAKER, MRS. FRANK, Washington, D. C.: A cannon ball captured from a British vessel during the War of 1812-14, and the front leaf of the "Ellsworth American," published in Ellsworth, Me., December 17, 1868, containing an account of the relic (56177).
- BAKER, DR. FRED., Point Loma, Cal.: Skin of a lory, *Vini kuhli*, from Fanning Island (56399); invertebrates and fishes from the inner lagoon of Fanning Island (56489); fishes, reptiles, crustaceans, and a squid, from the Philippine Islands (57041: collected for the Museum).
- BAKER, DR. F. H., Richmond, Victoria, Australia: Mollusks and polyzoans (55732: exchange); 2 specimens (2 species) of echinoderms, 9 specimens (4 species) of mollusks and 2 slides of odontophores of Chitons, from Australia (55768: exchange); 3 wasps and 2 beetles (55890); 6 beetles from Australia (56226: exchange); 3 specimens representing 3 species of bryozoans from Queenscliffe, Port Phillip Bay, Victoria (56472: exchange); starfishes, mol-
- lusk and insects (56631: exchange); insects from Victoria (56685).
- BAKER, HENRY D., American consul, Bombay, India (through The American Numismatic Society, New York City): 2 antique copper coins (55782).
- BAKER, OSCAR, Washington, D. C.: Cardinal, *Cardinalis cardinalis*, from the District of Columbia (56193).
- BALL, C. R., U. S. Department of Agriculture, Washington, D. C.: 125 plants, chiefly willows, from the United States (56274); 14 plants from New York (56676).
- BALLAUF, D., Washington, D. C.: A collection of models of steamboat propellers made by Mr. Ballauf (56077: purchase).
- BANCROFT, CHARLES A., Durand, Ill. (through Prof. F. W. Clarke): 2 specimens of native copper found in glacial drift (55947).
- BANE, MISS SUDA L., Washington, D. C.: Bohemian "peachblow" vase and stand (56803: loan).
- BANKS, NATHAN, Bureau of Entomology, Washington, D. C.: 4 specimens of *Andrena rehni* (56173).
- BARBER, MANLY D., Knoxville, Tenn.: Sponge, *Chalina clathrata*, variety, from Borneo (56742).
- BARCLAY, J. W., Washington, D. C.: A pair of flintlock pistols (57121: loan).
- BARKER, MRS. GEORGE F., Moylan, Pa.: The diploma of membership of Dr. George F. Barker in the American Philosophical Society, dated April 18, 1873 (55660).
- BARNES, DR. WILLIAM, Decatur, Ill.: 10 cotypes of Microlepidoptera (56705).
- BARR, REV. DAVID, Washington, D. C.: A Moro kris (56018).
- BARROWS, ALBERT L., University of California, Berkeley, Cal.: 4 specimens of *Epiphyragmophora stearnsiana* (56336); 30 specimens of 2

- BARROWS, ALBERT L.**—Continued.
species of isopods with 2 rock borings (56978).
- BARTAŠOV, Prof. A. V.,** Troickosavsk, Siberia: 21 Buriat skulls and 5 Mongolian skulls, from the vicinity of Kiakhtha, Siberia (57107: collected for the Museum).
- BARTLETT, H. H.,** U. S. Department of Agriculture, Washington, D. C.: 14 plants from the southeastern part of the United States (56709: exchange).
- BARTLETT, W. P.,** Porterville, Cal. (through U. S. Geological Survey): Specimen of pure white magnesite from ore pile of Tulare Mining Company at Porterville (56412).
- BARTON, ALEX.,** Columbia Furnace, Va.: Abnormal egg of a domestic fowl (56070).
- BARTSCH, HENRY,** Washington, D. C.: 8 crayfishes from Gap Run, Fauquier County, Va. (55794).
- BAUER, MRS. L. A.,** Washington, D. C., and **MRS. MARY B. DAWSON,** Linden, Md.: 8 water-color studies of plants by Miss Adelia Gates (56111).
- BEACH, H. D.,** Buffalo, N. Y. (through Mr. George W. Harris, Washington, D. C.): Photographic portrait of a lady (56588).
- BEACH, WILFRED W.,** New York City: Specimen of luna moth (55948).
- BEARSS, J. T.,** St. Cloud, Fla.: 2 living specimens of *Opuntia* from Florida (55649); 3 living specimens of *Opuntia* from Florida (56823: exchange).
- BEAVER DAM MARBLE Co.,** Baltimore, Md.: 2 large slabs of Beaver Dam marble from Cockeysville, Md., received through Rullman & Wilson (56032); 2 slabs of Mar Villa marble (56723).
- BECHDOLT, R. G.,** Seidersville, Pa.: 2 specimens of *Rhamnus* and one specimen of *Amaranthus blitoides*, from Pennsylvania (55812; 55949).
- BELLEVUE, OHIO, CITY SCHOOLS** (through Mr. E. F. Warner, superintendent): 21 specimens of calcite crystals and 4 specimens of invertebrate fossils (56266: exchange).
- BEMENT, CLARENCE S.,** Philadelphia, Pa. (through Prof. F. W. Clarke): 6 specimens of minerals (56797).
- BENEDICT, Dr. J. E.,** U. S. National Museum: Turtle from Connecticut (55976).
- BENEDICT, JAMES E., jr.,** Silver Spring, Md.: Red-tailed hawk, *Buteo borealis* (56251).
- BENNER, W. G.,** Hanover, Va.: Vertebra of a cetacean and tooth of a shark (56740).
- BENT, A. C.,** Taunton, Mass.: 6 bird skins from Guadalupe Island, Lower California (56834).
- BENTON, G. W.,** Brownwood, Tex.: 2 specimens of celestite (56444).
- BERLIN (DAHLEM BEI STEGLITZ), GERMANY, KÖNIGL. BOTANISCHER GARTEN UND BOTANISCHES MUSEUM:** Fragment of the type of *Lycopodium nitens* (56735); 6 specimens of *Lycopodium* from tropical America (56875); 200 specimens of grasses, chiefly from Africa (56890). Exchange.
- BERLIN, GERMANY, KÖNIGL. ZOOLOGISCHES MUSEUM:** 36 specimens, representing 16 species, of ascidians (56260: exchange); 24 parasitic Hymenoptera, including 8 paratypes of species described by Mr. H. L. Viereck in the Proceedings of the U. S. National Museum, Vol. 46 (56555).
- BERNHEIMER, JACOB S., & BRO.,** New York City: 3 2-yard lengths of a printed cotton fabric, Tong King Grosgrain (56702).
- BERRY, S. S.,** Redlands, Cal.: 162 specimens, representing 11 species, of land, fresh-water and marine shells, including a paratype of *Mopalia thamnopora*, from California, Montana and Maine (56426); 6 specimens of *Vitrea alliarda* from Red-

- BERRY, S. S.**—Continued.
lands, a European species accidentally introduced into California (56452).
- BEUTENMÜLLER, WILLIAM**, New York City: 4 specimens of *Rhamphomyia novae-carolinae*, including 2 paratypes (56553).
- BIDDLE, Miss CHRISTINE W.**, Philadelphia, Pa.: Silver filigree bonbon basket, Florentine (57109).
- BIDDLE, Col. JOHN**, U. S. Army, War Department, Washington, D. C. (through Miss Susan D. Biddle): Portrait in oil, by Thomas Sully, of Maj. John Biddle, U. S. Army (56998: loan).
- BIDDLE, Miss SUSAN D.**, Detroit, Mich.: Portrait in oil, by Thomas Sully, of Eliza Bradish Biddle, wife of Maj. John Biddle, U. S. Army (56997: loan).
- BIGGS, Mrs. NORTON**, Thomasville, Ga.: Specimen of *Lygodium* from Georgia (56441).
- BILL LEAF**, Tama, Iowa (through Dr. Truman Michelson): Sacred bundle of the Fox Indians (55880: purchase).
- BIRD, HENRY**, Rye, N. Y.: 4 insects (a pair of *Papaipema speciosissima* and a paratype of *P. lysimachiae* and *P. purpurifascia*) (56175).
- BLACKFORD, J. M.**, Delavan, Wis.: A net for catching passenger pigeons (56548).
- BLACKISTON, A. H.**, Cumberland, Md.: 9 terra cotta vases and figurines from Oaxaca, Mexico (55817); collection of archeological specimens from Hacienda Coacoyolitos, Delta of the Rosario River, Sinaloa and Oaxaca (55857); 8 copper ceremonial objects from Oaxaca (55873). Loan.
- BLISS, FAYAN & COMPANY**, Boston, Mass.: 5 2-yard cuts of Ripplette (56855).
- BLOW, H. L.**, Tuckerton, N. J.: Specimen of mantis, *Paratenodera sinensis* (56010).
- BODKIN, G. E.**, Government economic biologist, Georgetown, British Guiana: About 200 specimens of parasitic Hymenoptera (56281). (See under Georgetown, British Guiana.)
- BOLLMAN, H. C.** (See under Paul C. Standley.)
- BONAPARTE, PRINCE ROLAND, HERBARIUM OF**, Paris, France (through Mr. C. Belhatte): 111 ferns and 4 photographs of *Gleichenia compacta* (55898: exchange); 203 plants from Mexico (55898; 55944); 100 ferns from tropical America (55944: exchange); 2 specimens and 4 photographs of *Lycopodium* (56745: exchange).
- BOONE, Miss PEARL L.**, U. S. Department of Agriculture, Washington, D. C.: Land shells representing 5 species from Hyattsville, Md., and Northumberland County, Va. (56104); about 100 specimens of land and marine mollusks from the west side of Chesapeake Bay at Fleeton, Northumberland County (56288); crayfish from Rosslyn, Va. (56346); 2 snakes from Rock Creek Park, D. C. (56456); bat, *Pipistrellus subflavus*, from Hyattsville (56818).
- BOOTH, Miss M. A.**, Springfield, Mass.: 11 photographs of parasites (55824); hawkeye camera (55842).
- BOSTON SOCIETY OF NATURAL HISTORY**, Boston, Mass.: 2 Diptera (55672).
- BOTANIC GARDENS.** (See under Sydney, New South Wales, Australia.)
- BÖVING, Dr. ADAM GIEDE**, Bureau of Entomology, Washington, D. C.: 11 vials of immature Coleoptera from the vicinity of the District of Columbia (56507).
- BOWER, Prof. F. O.**, University of Glasgow, Glasgow, Scotland: Specimen of *Matteuccia intermedia* from India (56531).
- BOYD, B. F.**, Washington, D. C.: Snake (56809).

- BOYD, DR. NATHAN, Washington, D. C.: 2 paintings in oil—Portrait of Beatrice Cenci, by G. Mazzolini, and a copy of Titian's portrait of his daughter, unsigned (56279: loan).
- BOYNTON, Miss ALICE M., Nassau, Bahamas: 13 specimens, representing 12 species, of corals (56383).
- BRADLEY, CYRUS SHERWOOD, Southport, Conn.: 4 specimens of weathered igneous rocks (57120).
- BRADLEY, WILLIAM, & SON, Long Island City, N. Y.: 2 large slabs of marble from Carthage, Mo. (56030).
- BRAECKLEIN, J. G., Kansas City, Mo.: 145 stone implements from Missouri (56410); 198 small arrowpoints, 24 flint scrapers, 77 flint blades of various types and a bannerstone, mostly from Missouri (57059: exchange).
- BRANDEGEE, T. S., University of California, Berkeley, Cal.: 88 ferns collected in Mexico by Dr. C. A. Purpus (55846; 56599; 56629); 490 plants collected in Mexico by Dr. Purpus (57135: purchase).
- BRASSEUR, CHARLES L., Orange, N. J.: Photographic processes by Mr. Brasseur (56294: loan).
- BRAUCKMAN, CORNELIUS, Los Angeles, Cal.: 4 specimens of Grand Feu art pottery (55899).
- BRESLAU, GERMANY, MUSEUM, GEOLOGISCHES INSTITUT DER UNIVERSITÄT BRESLAU: 260 specimens, representing 68 species, of Upper Carboniferous fossils from India (Salt Range) (57039: exchange).
- BRIDWELL, JOHN COLBURN, Honolulu, Hawaii: Crustaceans from Honolulu (57063).
- BRIMLEY, C. S., Raleigh, N. C.: 2 specimens of *Norops auratus* and a specimen each of *Mabuta agilis* and *Gonatodes fuscus* (55991); 7 turtles from Georgia and North Carolina (56789); 7 turtles, *Pseudemys scripta* (56837). Purchase.
- BRINKMAN, A. H., Dowling Lake, Alberta, Canada: 20 specimens of Canadian hepatics (56182: purchase).
- BRINTON, Mrs. EMMA S., Washington, D. C.: 19 pieces of Norwegian bridal jewelry, a silver Armenian bracelet, and a pair of cuff buttons consisting of Roman coins mounted in Germany (56904: purchase).
- BRISBANE, QUEENSLAND, QUEENSLAND MUSEUM (through Prof. R. Hamlyn-Harris, director): 2 specimens of *Sympyrius oviparus* (55853); 2 specimens of *Peripatoides oviparus* (56934).
- BRISTOW, JOSEPH Q., Washington, D. C.: 4 framed engravings (55778: loan); a 2-color halftone relief (55779).
- BRITISH MUSEUM (NATURAL HISTORY). (See under London, England.)
- BROADWAY, W. E., Scarborough, Tobago, West Indies: 120 miscellaneous plants from Tobago and Trinidad (55850; 55987; 56021; 56217; 56359; 56829; 56894; 57021); 25 ferns mainly from Grenada (56217); 2 cactus specimens and a photograph (56773); 200 miscellaneous plants from Tobago (55959; 55979; 56021: purchase).
- BROCKUNIER, S. H., Nevada City, Cal. (through Mr. Frank L. Hess, U. S. Geological Survey): 2 specimens of ferberite with chrysocolla and copper tungstate in pegmatite (56695).
- BROOKLYN INSTITUTE OF ARTS AND SCIENCES, CENTRAL MUSEUM OF, Brooklyn, N. Y. (through Mr. Robert Cushman Murphy): Marine mollusks representing 7 species from South Georgia, Antarctic Islands (56046); 23 specimens, representing 9 species, of crustaceans from South Georgia (56411); lizard, *Tarentola delalandii*, from Cape Verde Islands (56443); 4 specimens of a copepod, *Pandarus satyrus* (56687).
- BROUARD, ARSENIO, Querétaro, Mexico: 43 living plants, mostly Cactaceae, from Mexico (56511; 56870).

- BROWN, CHARLES, and JOHN PEARSON, Dent, Idaho (through Mr. W. B. Compton): Incrustation of vivianite crystals from gold placer mines in Clearwater County, Idaho (56035).
- BROWN, EDGAR, U. S. Department of Agriculture, Washington, D. C.: Specimen of red-eyed vireo, *Vireosylvia olivacea*, from Plummer's Island, Va. (57012).
- BROWN, EDWARD J., U. S. National Museum: Specimen of ring-necked duck, *Marila collaris*, from the Potomac Flats, D. C. (56005); specimens of *Polygyra* from Rock Creek Park, D. C. (56106); 3 salamanders from Virginia (56233).
- BRYAN, Maj. HARRY S., Mexico, Mexico: Archeological and ethnological objects from Mexico (55831; 55900). Loan.
- BRYAN, WILLIAM A., Honolulu, Hawaii: Shrimp, *Crangon levis*, and an isopod, *Nerocila australasiae* (56322).
- BRYANT, THOMAS H., Cincinnati, Ohio: 5 cases of shells from various localities, being the collection of the late Prof. Frank W. Bryant of Lakeside, Cal. (55981).
- BÜES, C., and Mr. SCHMITT, Tirapata, Peru, via Mollendo: Fresh-water shells from Juli, Lake Titicaca, and from a lake on hacienda Sapaputjio, draining through Ramis River into Lake Titicaca, 14,000 feet elevation (56862).
- BURDEN, Mrs. C. E., Falls Church, Va.: About 10,000 specimens of Coleoptera (55724: purchase).
- BURNHAM, Dr. N. S., Miami, Fla.: Crab, *Libinia erinacea* (56315).
- BURNSIDE, BRADFORD, Hyattsville, Md.: Spider (55805).
- BUSH-BROWN, H. K., Washington, D. C.: Plaster cast, heroic size, of H. K. Bush-Brown's bust of Lincoln, the bronze of which has been erected at Gettysburg (56168: loan).
- BUSHNELL, Mrs. BELLE, Charlottesville, Va.: A Chinese embroidered crêpe shawl and a bronze statue of Buddha (56341).
- BUSHNELL, D. I., jr., Charlottesville, Va.: Quiver and bow case (Osage?) 75 years old, from St. Genevieve, Mo. (55681); notched stone ax found one mile northeast of Stuarts Draft, one-half mile west of the South Fork of the Shenandoah River, Augusta County, Va. (56095); 25 archeological objects from Missouri, Illinois, Tennessee and Arizona (56345: purchase).
- BUTMAN, CARL H., Smithsonian Institution: 9 specimens of rotary intaglio, rotogravure, etc. (57098).
- CALCUTTA, INDIA, INDIAN MUSEUM: Shrimp, *Typhlocaris galilea*, from Lake Tiberias, Palestine (55926); 2 specimens of crab, *Carcinoplaea longipes* (56367). Exchange.
- CALCUTTA (SIBPUR, near), INDIA, ROYAL BOTANIC GARDEN: 16 plants from India (56632: exchange).
- CALIFORNIA ACADEMY OF SCIENCES, San Francisco, Cal.: Lizard, *Sceloporus elongatus*, from Utah (56510); 180 plants from California (56601: exchange); Tertiary fossils, mostly paratypes, representing 18 species from California (56865).
- CALIFORNIA, UNIVERSITY OF, MUSEUM OF VERTEBRATE ZOOLOGY, Berkeley, Cal.: Isopod crustaceans, *Alloniscus mirabilis*, from San Diego Bay (56024).
- CAMBRIDGE, MASS., MUSEUM OF COMPARATIVE ZOOLOGY: 40 bird skins from China (56308); lizard, *Brachylophus fasciatus*, from Fiji, and 2 frogs, *Astylosternus robustus*, from Kamerun (57113). Exchange.
- CAMPBELL, Mrs. CHARLES H., Washington, D. C.: Wedding dress of Mrs. Porter, wife of Admiral D. D. Porter, U. S. Navy (57060: loan).

- CAMPBELL, E. F., Washington, D. C.: 26 specimens, representing 9 species, of marine shells from Cape Lookout, N. C., and James River, Va. (56761).
- CARNEGIE INSTITUTION OF WASHINGTON: 19 living specimens of Cactaceae, consisting of 12 specimens of *Mamillaria* and 7 specimens of *Coryphantha similis*, collected by Prof. A. Ruth in Texas (55648; 56883); 2 living specimens of Cactaceae collected near Flagstaff, Ariz., by Dr. Forrest Shreve (55718); about 2,000 plants, including Cactaceae, from Colorado. New Mexico and Texas, collected by Dr. J. N. Rose and Mr. William R. Fitch (56092); 22 plant specimens from Colombia, South America, received from Mr. John G. Sinclair (56871); 5 specimens of *Dudleya parishii* from Lebec, Cal., collected by Dr. D. T. MacDougal (56989).
- CARNEGIE INSTITUTION OF WASHINGTON and U. S. GEOLOGICAL SURVEY, Washington, D. C.: 16 cases of rocks, fossil wood, recent land mollusks and recent corals, from the Leeward and Virgin Islands, West Indies, collected by Dr. T. Wayland Vaughan (56907).
- CARNEGIE MUSEUM, Pittsburgh, Pa.: 1 living specimen of Cactaceae collected on the Isle of Pines by Mr. G. A. Link (56181).
- CARR, W. P., Deadwood, S. Dak.: 50 plants from South Dakota (55809: purchase); 134 plants from South Dakota (56422).
- CARTER, JOSEPH C., U. S. Department of Agriculture, Washington, D. C.: An etching, "Cedars in Moonlight," by James D. Smillie (56779).
- CARTER, N. E., Elkhorn, Wis.: 16 specimens made in imitation of prehistoric implements (55677; 55757; 56464).
- CASE, Dr. E. C., University of Michigan, Ann Arbor, Mich.: The type specimen of *Crossotelos annulatus* (56659: exchange).
- CASH, Miss LILIAN C., U. S. National Museum: Medusae and Amphipoda from Plum Point, Md. (55674); frog from Maryland (55910).
- CASSELLA COLOR COMPANY, New York City: Collection of coal distillation products and dyestuffs illustrating the artificial color industry (57025).
- CAWSTON OSTRICH FARM, South Pasadena, Cal.: Egg of Nubian ostrich, *Struthio camelus* (55684).
- CENTRAL MUSEUM OF THE BROOKLYN INSTITUTE OF ARTS AND SCIENCES. (See under Brooklyn.)
- CHACE, Mrs. E. P., Los Angeles, Cal.: Specimens of neplonic young of *Petricola* from North Santa Monica, Cal. (56158).
- CHAGNON, W., St. Johns, Quebec, Canada: 8 specimens of Lepidoptera (56693).
- CHALMERS, R. BUDD, Germantown, Pa.: 27 specimens of sponge, *Tetilla gravata* (56688).
- CHAMBERLAIN, C. E., Bethlehem, Pa.: Specimen of *Limax maximus* (56022).
- CHAMBERLAIN, E. B., New York City: 2 mosses from Italy and a specimen from Ceylon (56234; 56379).
- CHAMBERS, B. L., U. S. National Museum: Specimen of barred owl, *Strix varia*, from Rockville, Md. (56332).
- CHAMPLAIN, A. B., Harrisburg, Pa.: 23 specimens of Hymenoptera (55839).
- CHANDLER, WALTER MARK, Washington, D. C.: 50 mineral specimens (56744: exchange); specimen of malachite from northern Rhodesia, and a bowlder from Roberts Victor Diamond Mine, Orange River Colony, South Africa (56974).
- CHANDONNET, Rev. Z. L., Perham, Minn.: 9 specimens of *Laciniaria* from Minnesota (55950).
- CHARLESTON MUSEUM, Charleston, S. C. (through Dr. D. S. Martin): 11 specimens of minerals (56752).

- CHENEY BROTHERS**, South Manchester, Conn.: Grant silk reel and skeins of yarn showing methods of winding; specimens showing the processes used in weaving, printing and finishing silk goods; silk scarfs and ribbons (56298).
- CHESTER GRANITE AND POLISHING WORKS**, Chester, Mass.: A 5-inch cube of granite (55737).
- CHILDS, L. J.**, Rialto, Cal.: Specimen of Wilkeite from Crestmore, Cal. (56699).
- CHRISTOPHERSON, EDMUND D.**, Empire, Canal Zone: 39 specimens of Panama woods collected by Mr. Christopherson (56179: purchase).
- CHUBBUCK, LEVI**, Washington, D. C.: Sacred bison skull (55915).
- CLAPP, WILLIAM F.**, Museum of Comparative Zoölogy, Cambridge, Mass.: Mollusks from Massachusetts, representing 2 species (56810).
- CLARK, AUSTIN H.**, U. S. National Museum: Skin of *Marmosa* and skin of *Dasypus*, from Tobago (55958); 40 mammal skins and 63 bird skins, from various localities (56885); type specimen of *Peripatus (Epiperipatus) trinidadensis broadwayi* from Tobago (56935).
- CLARK, B. PRESTON**, Boston, Mass.: 50 specimens of Sphingidæ from Real del Monte, Hidalgo, Mexico (56542); about 150 Lepidoptera and other insects from Mexico and 75 butterflies from Banff, Alberta, Canada (56630); small collection of Lepidoptera (56987: gift and exchange).
- CLARK, FRANK SCOTT**, Detroit, Mich. (through Mr. George W. Harris, Washington, D. C.): Photographic portrait group "The Greek Temple Dance" (56589).
- CLARK, DR. G. HARDY**, Waterloo, Iowa: An anatomical specimen (56919).
- CLARK, JAMES L.**, New York City: Kudu skull and skull of a sable antelope (55745); roan antelope skull, *Ozanna equina langheldi*, from British East Africa (56681: exchange); skull of topi, *Damaliscus*, and 1 of waterbuck, *Kobus*, from British East Africa (56813); 18 antelope skulls—9 *Ozanna*, 1 *Amme-laphus*, 2 *Cobus vardoni*, 2 *Adenota cob*, 1 *Damaliscus* and 3 *Tragelaphus*, all from British East Africa and North-West Rhodesia (57017: exchange); 6 African antelope skulls—2 *Onotragus*, 2 *Taurotragus*, 1 *Oryx* and 1 *Adenota* (57053: exchange).
- CLARK, MISS MAY S.**, Bureau of American Ethnology: A Navaho blanket (57061: purchase).
- CLARKE, PROF. F. W.**, U. S. Geological Survey, Washington, D. C.: 237 photographs of snow crystals (56037).
- CLARKE, MRS. F. W.**, Washington, D. C.: A locket containing a picture of "Peace," period of 1812 (56525); a carved tortoise-shell backcomb (56582). Loan.
- CLEMENTS, E. F.**, U. S. National Museum: Specimen of black-poll warbler, *Dendroica striata* (56978).
- CLOUGH, L.**, East Concord, N. H.: Samples of lithophilite (56993).
- COCKERELL, PROF. T. D. A.**, University of Colorado, Boulder, Colo.: 135 miscellaneous insects (55759; 55870; 56052); 29 insects of which 12 named specimens belonging to 10 species (3 species represented by cotypes) are North American bees, and 10 named specimens belonging to 9 species (2 species represented by cotypes) are Australian bees new to the Museum collections (55927); 9 insects, including the type of *Cerceris angularis* (56135); type of *Veronicella mexicana betheli*; type of *Philomycus costaricensis* and one slide; cotypes of *Oreohelix haydeni betheli*, *O. haydeni* var. *alta*, and *O. hendersoni dakani*; 2 slides of *Agriolimax guatemalensis montaguensis* from Panama and Glenwood Springs, Colo. (56163); 4 specimens of *Oroperipatus corradoti*

COCKERELL, Prof. T. D. A.—Continued. (56447); 11 plants from Colorado and New Mexico (56514; 56573); 20 specimens of named bees, including 6 cotypes and 4 species, mostly from New South Wales (56564); 4 specimens of *Oroperipatus corradot* collected at Ancon, Canal Zone, by Mr. J. Zetek (56936); 9 unnamed insects and 5 types (3 of Hymenoptera, 1 of Diptera, and 1 of Homoptera) (56971).

CODWISE, Miss LOUISE SALTER, Kingston, N. Y.: A needlebook, said to have been owned by Pocahontas, presented to the donor by the Countess Maria Conavarrro, one of the descendants of the Indian princess (56002); watch, apparently of English make (56043).

COGIN, W. M. (through Dr. Thomas N. White, Franklin, Va.): Florida cormorant, *Phalacrocorax auritus floridanus*, from Virginia (56902).

COLLINS, FRANK S., North Eastham, Mass.: 50 specimens of algæ, *Phycotheca Boreali-Americana*, Fascicle XXXIX (56889: purchase).

COLORADO AGRICULTURAL COLLEGE, Fort Collins, Colo. (through Prof. C. P. Gillette): Types of 12 species and a paratype of an additional species of *Andrena* (56270: exchange).

COLORADO COLLEGE, MUSEUM OF, Colorado Springs, Colo. (through Mr. E. R. Warren, director): The type of *Nemorhædus palmeri* and both femora and lower jaw of *Marmota* sp. (56741: loan).

COLORADO MUSEUM OF NATURAL HISTORY, Denver, Colo.: 2 pairs of Gambel's quail, *Lophortyx gambeli*, from Colorado (56992).

COLORADO, UNIVERSITY OF, Boulder, Colo.: 115 specimens of monzonite (56337: exchange).

COLORADO-YULE MARBLE COMPANY, Marble, Colo.: A table made of Colorado-Yule marble and a large slab of this marble (55932; 56112).

COMBS, CLARK W., Washington, D. C.: Silver holder for cockade, War of 1812; china plate from flagship *St. Lawrence*, Battle of Lake Erie, War of 1812; and a purse of green and gold beads (57035: loan).

COMMERCE, DEPARTMENT OF:

Bureau of Fisheries: Collections of mollusks and plants, from the vicinity of Nushagak, Alaska, collected by Mr. G. Dallas Hanna and Mr. C. J. Roach (55670); about 100 starfishes, comprising 13 species and varieties, from the expeditions to Samoa, the northwest Pacific and the Philippine Islands, received through Dr. Walter K. Fisher (55741); 5 vials of crustaceans from Letnik Lake, Afognak Island, Alaska (55795); 162 lots of named ascidians, including types of 8 new species, and 48 lots of miscellaneous invertebrates, from the Philippine expedition of the *Albatross*, 1907-1910 (56066); mammals, reptiles, fishes, insects, mollusks and other invertebrates and algæ, from Lake Maxinkuckee and other points in the northern part of Indiana, collected by Dr. B. W. Evermann and Mr. H. Walton Clark (56206); foraminifera collected by the *Albatross* and reported on by Prof. F. E. Schulze in Bulletin of the Museum of Comparative Zoölogy, Volume 51, No. 6 (56258); collection of fishes made by Prof. George Wagner in Minnesota during the summer of 1911 (56278); type specimen of a distome, *Parorchis avitus*, from a herring gull, Woods Hole, Mass., described by Dr. Edwin Linton (56285); 56 fishes collected in Japan and California, and 59 batrachians and reptiles collected in California and Nevada, through Dr. J. O. Snyder (56326); toads, a shell and a slug, from Alaska, collected principally by Mr. Ernest P. Walker (56340); reptiles and batrachians from North Carolina, collected by Mr. B. Schwartz (56349); plankton

COMMERCE, DEPARTMENT OF—Contd.

and invertebrates, reptiles, turtle eggs, insects, mollusks and plants, from Indiana (56366; 56390); 49 bird eggs from Alaska, collected by Mr. G. Dallas Hanna (56417); collections from the north Atlantic coast of the United States by the schooner *Grampus* during 1913, under the direction of Dr. H. B. Bigelow, including pteropods, cephalopods and other mollusks, Salpæ, amphipods, hydrozoans, etc. The material in several of these groups had been studied and classified by Dr. Bigelow and Mr. W. E. Clapp (56435; 56490; 56569; 56751); 9 specimens of *Peneus setiferus* and 2 specimens of *Chloridella empusa*, from Louisiana, collected by the Conservation Commission (56473); fishes from California, Oregon and Nevada and from the *Albatross* expedition of 1906, received through Dr. J. O. Snyder (56483); 7 specimens of *Rangia flexuosa* from Vermillion Bay, La., collected by Mr. E. A. McIlhenny (56492); skin and skull of a deer, *Odocoileus*, from Wrangell Narrows, Alaska, collected by Mr. Ernest P. Walker (56606); the first series of a collection of schizopods taken by the schooner *Grampus* during the summer of 1912 and identified by Dr. H. J. Hansen (56762); 3 specimens representing 3 species of isopods (56880); fur-seal teeth, a shrew, a bird, reptiles and batrachians, fishes, invertebrates including insects and mollusks, and plants (56911); myctophids (lantern fishes) from the South Pacific (56923); 131 specimens of fresh-water mussels from various points in the United States (56961); specimens of the species of pearl shells from the Mississippi Valley which are used for the manufacture of buttons (57004); type specimens of fishes collected by the *Albatross* in the North Pacific in 1904 and described by Dr. C. H. Gilbert (57104); 30 mammals, including

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types of 10 species described by Dr. C. H. Townsend, collected by the *Albatross* in Lower California and received through the American Museum of Natural History (57112).

Bureau of Foreign and Domestic Commerce: 5 samples of gum and resins collected in the market of Aden, British Arabia, by the American consul, Walter H. Schulz (56352).

CONGRESS, LIBRARY OF. (See under American Colonization Society.)

CONSERVATION COMMISSION, Albany, N. Y. (through Dr. Tarleton H. Bean): Specimens of *Hydra fusca* from the Adirondack State fish hatchery (55982; 56209).

CONSOLIDATION COAL COMPANY, Fairmont, W. Va.: A model plant showing, on the scale of one inch to the foot, a West Virginia coal district—miner's village, with mine trackage, coal tippie, washery and coke plant; the machinery is all in actual working parts. Received at the close of the Louisiana Purchase Exposition, 1904 (55791).

CONZATTI, Dr. C., Oaxaca de Juarez, Oaxaca, Mexico: 11 living specimens of Cactaceae from Mexico (56138; 56360; 56869); 8 living specimens of Cactaceae from Mexico (56529: exchange).

COPENHAGEN, DENMARK, UNIVERSITETS ZOOLOGISKE MUSEUM: A small collection of stone implements, shells and bone fragments found in Danish and Icelandic refuse-heaps (kitchen middens) (56760: exchange).

COPPER BOTTOM MINING AND MILLING COMPANY, Careyhurst, Wyo.: 2 teeth and 2 vertebrae of *Elephas* (56926).

CORLAY AND GROSS COMPANY, Cleveland, Ohio: 22 examples of offset printing in color (13 duplicates), representing the work of the firm (55706).

- CORE, E. B., New York City (through Mr. George W. Harris, Washington, D. C.): Photographic portrait group of children (55591).
- COSMOS CLUB, Washington, D. C.: Antlers of Arizona wapiti, *Cervus merriami* (55889: exchange).
- CRAMER, A. L., Colby, Wis.: Star-nosed mole, *Condylura cristata*, from Colby (56578).
- CRAMER, G., St. Louis, Mo.: Photograph of the donor (57131).
- CRAMPTON, Dr. C. C., Kankakee, Ill.: 220 plants from Illinois (56403).
- CRANMER, Miss FRANCES, Bronxville, N. Y. (through Mr. Clarence C. Moore, Washington, D. C.): 2 oil paintings by Frances Cranmer—A Chippewa Indian chief and an aged Chippewa woman (56309: loan).
- CRICKLAIR, R., Los Angeles, Cal.: Trap-door spider and nest (55798).
- CROSS, Dr., Cross, Okla.: 26 specimens of aragonite (55717).
- CURTIS, Mrs. WILLIAM ELROY, Washington, D. C.: 215 specimens, including material in ethnology, archaeology and history, brought together by the late William Elroy Curtis (56080: loan).
- CUSHMAN, Mrs. ALLETON S., Washington, D. C.: 2 costumes of Charlotte S. Cushman used in the impersonation, respectively, of Catharine and Cardinal Wolsey in Henry VIII (56918; 57001). Loan.
- CUSTER, Mrs. ELIZABETH B., Bronxville, N. Y.: Photograph of Maj. Gen. George A. Custer and a description of the photograph written by Mrs. Custer (55864).
- DAECKE, E., Harrisburg, Pa.: 14 specimens of Diptera, representing 7 species (55922).
- DAHLEM BEI STEGLITZ, KÖNIGL. BOTANISCHER GARTEN UND BOTANISCHES MUSEUM. (See under Berlin, Germany.)
- DALL, Dr. WILLIAM H., U. S. Geological Survey, Washington, D. C.: 2 photographs of natives of India, and 45 paintings on mica representing occupations of India (55676); nest of slate-colored Junco, *Junco hyemalis*, from Mt. Monadnock, N. H. (55758); 2 photographs of *Sarracenia* (56236).
- DANDRIDGE, Miss SERENA K., Washington, D. C.: Fishes collected at South Harpswell, Me., in 1913 (56429).
- DAVENPORT, Commodore R. G., U. S. Navy (retired), Washington, D. C.: A camel's hair shawl of the period 1820-1840 (56636).
- DAVIDSON, Dr. A., Los Angeles, Cal.: Specimen of *Navarretia* from California (55960); 27 specimens of Chenopodiaceae and Allioniaceae, chiefly from California (56188).
- DAVIES, GEORGE W., Topaz, Cal. (through U. S. Geological Survey): Specimen of greenockite from Topaz (56361).
- DAVIS, Dr. S. AUSTIN, Brooklyn, N. Y.: Isopod, *Ceratothoa impressa*, parasitic on a flying-fish (56033).
- DAWSON, Mrs. MARY B. (See under Mrs. L. A. Bauer.)
- DEAM, CHARLES C., Bluffton, Ind.: 189 plants from Florida, Indiana and Guatemala (56663: exchange).
- DEEKENS, Dr. W. F., Staunton, Va.: Tooth of an extinct species of horse (56065).
- DE LAVAL SEPARATOR COMPANY, New York City: 2 De Laval cream separators (56432: loan).
- DELAWARE COLLEGE AGRICULTURAL EXPERIMENT STATION, Newark, Del. (through Mr. J. J. Taubenhaus): Type material of *Sclerotium bataticola* (56941).
- DENSMORE, Miss FRANCES, Red Wing, Minn.: Collection of Sioux Indian ethnological objects (56292: loan); a cooking outfit used by the Sioux Indians in boiling meat without a kettle (56395: purchase); 9 eth-

- DENSMORE, Miss FRANCES—Continued.
nological specimens of the Chippewa
Indians (56905: purchase).
- DERICKSON, Prof. S. HOFFMAN, Leba-
non Valley College, Annville, Pa.: 2
ferns from Jamaica (56831).
- DESERET MUSEUM, Salt Lake City,
Utah: 14 mineral specimens from
Bingham, Utah (56650: exchange).
- DEVOE, F. W., & C. T. RAYNOLDS Co.,
New York City: A collection of
artists' materials, numbering 160
articles (55841).
- DEWEY, Mrs. GEORGE, Washington,
D. C.: Wedding gown of Mrs. Dewey
and an evening gown belonging to
her (56903: loan).
- DICKERSON, D. S., Carson City, Nev.:
Skeleton of a rock wren, *Salpinctes*
obsoletus, from Nevada (56756).
- DICKERSON, EDGAR L., Nutley, N. J.: 3
specimens of Lepidoptera (56692).
- DISBROW, Dr. W. S., Newark, N. J.:
Zeolite from West Paterson, N. J.
(56697: exchange).
- DISTRICT OF COLUMBIA PAPER MANUFAC-
TURING COMPANY, Washington, D. C.:
Specimens illustrating 20 varieties
of paper manufactured by the donor
(55886).
- DOHERTY & WADSWORTH COMPANY,
New York City: 2 2-yard lengths of
printed mikado crêpe (56856).
- DOWLING, Dr. THOMAS, Washington,
D. C.: Car-coupling link and a speci-
men of T-rail (56195: loan).
- DRAKE, CARL J., Columbus, Ohio: Iso-
pods from Cedar Point, Ohio
(56042).
- DUDLEY, PERIEN S., Buckfield, Me.
(through Mr. Frank L. Hess, U. S.
Geological Survey): Specimen of
pollucite from Buckfield (55729).
- DUFFIELD, MORSE S. (See under
Charles H. Hussey.).
- DULUTH CHAMBER OF COMMERCE, Du-
luth, Minn.: Model of Fayal iron ore
mine, Eveleth, Minn., received at the
close of the Louisiana Purchase Ex-
position, 1904 (57115).
- DÜMMER, A. R., Kipayo, Uganda, Brit-
ish East Africa: 200 plants from
Uganda (56707: purchase).
- DUPLAN SILK COMPANY, New York
City: 6 2-yard lengths of surface-
printed broad silks, woven, printed
and finished in America from de-
signs executed in Paris, in the Mar-
tine School of Decorative Art under
the direction of Paul Poiret (56671).
- EAGLE AND PHENIX MILLS, Columbus,
Ga.: 16 2-yard lengths of yarn-dyed
cotton fabrics in finished and unfin-
ished state (56615).
- EARNSHAW KNITTING COMPANY, INC.,
Chicago, Ill.: A series of specimens
illustrating successive stages in the
knitting, cutting and finishing of in-
fants' underwear (57138).
- EARNSHAW, WALTER, Anacostia, D. C.:
Fungus from the District of Colum-
bia (56976).
- EASTHAM, J. W., Central Experiment
Farm, Ottawa, Canada: 24 speci-
mens of Myxomycetes from Canada
(56512: exchange).
- EASTMAN, GEORGE, Rochester, N. Y.:
Photograph of the donor (57132).
- EASTMAN KODAK COMPANY, Rochester,
N. Y.: Collection of photographic
apparatus and prints (15 specimens)
(57089).
- EGBERT, Dr. J. HOBART, Superintendent,
Medical Department, United Fruit
Company, Santa Marta, Colombia:
90 miscellaneous insects, including
mosquitoes and Psychodidae (55679;
55771).
- EGGLESTON, W. W., U. S. Department
of Agriculture, Washington, D. C.:
20 specimens of *Cratægus* from In-
diana (56513).
- EGYPT EXPLORATION FUND, London,
England (through Mr. S. W. Wood-
ward, Washington, D. C.): 8 speci-
mens of antiquities from Abydos
(55827).
- ELLIS, Miss CHARLOTTE C., Tijeras, N.
Mex.: 423 plants from New Mexico
(55751: purchase); 6 living speci-
mens Cactaceae from Tijeras (57024).

- ELMER, A. D. E.**, Manila, P. I.: 793 plants from the Philippine Islands (56866: purchase).
- ELSON, A. W., & COMPANY**, Boston, Mass.: 2 specimens of newspaper illustration by the rotary photo-gravure process (56421).
- EMERICK, NAT.**, Chloride, N. Mex.: Specimen of water-bug, *Abedus macronyx* (56204).
- ENGELHARDT, George P.**, Children's Museum, The Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.: 12 specimens of *Zodia rufago* (56230).
- ESSIG, E. O.**, State Horticultural Commission, Sacramento, Cal.: 29 type slides and 9 cotype slides of 15 species of aphids described by the donor (55808).
- EUSTIS, WILLIAM CORCORAN**, Chairman, Inaugural Committee, Washington, D. C.: Bronze copy of the medal commemorating the inauguration of President Wilson and Vice President Marshall, March 4, 1913 (55675).
- EVANS, WILLIAM T.**, New York City: 3 paintings in oil, namely, "The Waterfall," by Addison T. Millar (56642); "Gloucester Harbor," by Guy C. Wiggins (56942); "A Good Story," by Clara T. MacChesney (56975).
- FAHS, R. Z.**, Edmonds, Wash.: Land and marine shells from Washington (55954).
- FAIRFAX, The Misses GWENDOLIND and LILLIAN**, Washington, D. C.: A cradle of the eighteenth century, used by William Faulkner, who served in the 4th and 6th Pennsylvania regiments during the War of the American Revolution (56804).
- FALL, Mrs. GEORGE W.**, Nashville, Tenn.: Blue brocaded satin dress, made by Worth in 1844, and worn by Mrs. James K. Polk at the White House (56907).
- FARNSWORTH, ALVA**, North Rose, N. Y. (through Mr. A. C. Weed): Shrew, *Cryptotis parvus* (55977).
- FAUNTLEBOY, Miss JULIET**, Lynch Station, Va.: 43 plants from Virginia (56225; 56380).
- FEDERATED MALAY STATES MUSEUMS.** (See under Kuala Lumpur.)
- FELIPPONE, Dr. FLORENTINO**, Montevideo, Uruguay: Shells from Uruguay (57071).
- FERRISS, JAMES H.**, Joliet, Ill.: 15 ferns mainly from the southwestern part of the United States (56556); skin of a rattlesnake from Arizona (57055).
- FESTA, Dr. ENRICO**, Museo di Storia Naturale, Turin, Italy: 3 rabbits, 2 mice and a dormouse, from Italy and the island of Rhodes (56610); specimen of *Cervus corsicanus* and one of *Sus meridionalis*, from Sardinia (56805).
- FIELD MUSEUM OF NATURAL HISTORY**, Chicago, Ill.: Fragment and tracing of the type of *Coclopleurum maritimum* (56480); 11 ferns from Peru (56538). Exchange.
- FISHER, Miss ELIZABETH GRACE**, Stanford University, Cal.: 51 specimens of isopods, representing 6 species (56196; 56244).
- FISHER, GEORGE L.**, Houston, Tex.: 267 plants principally from Texas and Missouri (55878; 56004; 56377).
- FITCH, WILLIAM R.**, Smithsonian Institution: 7 living specimens of Cactaceae from near Steele, N. Dak. (56091).
- FLETCHER, Mrs. MARY MANNING** (through Mr. Van H. Manning, executor, Washington, D. C.): 99 ethnological specimens, consisting mainly of basketry and beadwork, bequeathed in memory of her husband, Louis C. Fletcher (55955: bequest).
- FLINT, Dr. JAMES M.**, U. S. Navy (retired), Washington, D. C.: 4 specimens of nummulite limestone from the Pyramid of Cheops; 28 microscopic slides of mineral substances collected during a cruise of the U. S. S. *Nero* (see Bull. U. S. N. M. No. 55); 134 microscopic slides of

- FLINT, DR. JAMES M.—Continued.
animals and plants; 4 microscopic slides of diatoms and coccolinths; one microscope (Crouch, London), and accessories; one microtome; one turntable; 21 slide boxes, 90 microscopic slides of foraminifera, radiolaria, etc. (56117).
- FOLLENSBEE, FRANK, Clarendon, Va.: A gold medal presented to Joshua Follensbee, naval engineer, by the Chamber of Commerce and Citizens of New York in commemoration of his services in laying the first transatlantic telegraph cable in 1858 (56385: loan).
- FOLSOM, J. W., Urbana, Ill.: 15 specimens of *Collembola*, including 5 cotypes of 3 species (56399).
- FORD, DANNA and STANLEY, Harlingen, Tex.: 3 species of Saturnian cocoons (56900).
- FORD, J. S., jr., Harlingen, Tex.: Moth, *Rothschildia jorulla* (56717).
- FOREST SILK COMPANY, New York City: 12 samples of brocaded novelty silks (56947).
- FORRESTER, MRS. ROBERT, Salt Lake City, Utah (through Dr. George H. Girty, U. S. Geological Survey): A specimen of calcareous tufa from a spring terrace between Silverton and Durango, Colo. (56083).
- FORTUNE, G. M., Buffalo, Kans.: Larva of a moth of the family Cossidae (56673).
- FRACHTENBERG, L. J., Bureau of American Ethnology: Headdress, 2 large and 2 small sets of guessing games of the Chatco Indians of Oregon (56275: purchase).
- FRANKFORT (ON-THE-MAIN), GERMANY, SENCKENBERGISCHE NATURHISTORISCHES MUSEUM: Cast of gorilla skull (55935).
- FREEMAN, MRS. NATHANIEL, Washington, D. C.: 16 stereoscopic photographs, a daguerreotype and a melanotype (55843).
- FREIRE-MARRECO, Miss B., Somerville College, Oxford, England: A sample of red ochre used as face paint by the Indians at McDowell, Ariz. (56520).
- FREMLIN, WALTER T., Bearstead, Kent, England (through Mr. Walter H. Levy, London, England): 2 skins of "hermaphrodite" pheasants from England (56607).
- FREY, Miss FRANCES H., Lebong Solet, Benkulen, Sumatra: 14 insects, consisting of 9 Lepidoptera, 2 Coleoptera, 1 Phasmid, 1 Heteroptera and 1 Cicadidae (56157).
- FREY, H. L., U. S. Navy, Olongapo, P. I.: Specimen of young "walking-leaf," *Phyllium* sp., nymph (56766).
- FRIEDRICH, ALBERT, San Antonio, Tex.: 2 specimens of Hemiptera, *Laterania phosphorea* (56438).
- FRIERSON, L. S., Frierson, La.: 2 specimens of *Nodularia bakeri* from Lake Albert Nyanza, Africa (57010).
- FRITSCH, OSKAR, Taucha bei Leipzig, Germany: Skin, skull and leg bones of a wolf, *Canis lupus*, from Tulcea, Dobrudscha (56400: purchased from the Harrison fund).
- FUEHMANN, Prof. Dr. OTTO, Musée d'Histoire Naturelle, Neuchâtel, Switzerland: 2 cotypes of *Oroperipatus bimbergi* (56061: exchange).
- FUKAI, T., Konosu, Saitama, Japan: 18 bees, 36 sawflies and 27 parasitic Hymenoptera (56121).
- FULTON, BENTLEY B., New York Agricultural Experiment Station, Geneva, N. Y.: 2 specimens of *Cacus acanthi* (56561).
- GAMBLE, Dr. H. McS., Moorefield, W. Va.: 10 living specimens of *Opuntia opuntia* from West Virginia (55694).
- GARFIELD SMELTING COMPANY, Garfield, Utah (through Mr. Frank L. Hess, U. S. Geological Survey): Oolitic sand (56353).

- GARO, J. H., Boston, Mass. (through Mr. George W. Harris, Washington, D. C.): Photographic portrait of a man (56585).
- GATES HANDLE COMPANY, Beaumont, Tex.: Pupa of beetle, *Stratejulus julianus* (57103).
- GATES, Prof. WM. H., Louisiana State University and Agricultural College, Baton Rouge, La.: Isopods, *Probo-pyrus bithynis* parasitic on shrimps, *Macrobrachium ohionis* (56027).
- GAULEY MOUNTAIN COAL COMPANY, Ansted, W. Va.: Specimen of cannel coal (56549).
- GAUMER, Dr. GEORGE F., Tacubaya, D. F., Mexico: 2 skins of *Nyctidromus albicollis yucatanensis* from Yucatan (55902).
- GEARE, ILTYD H., Hongkong, China: Specimen of a common Chinese and Japanese longicorn beetle, *Melanauster chinensis* (55789).
- GEBIEN, H., Naturhistorisches Museum, Hamburg, Germany: 15 beetles, 12 of which are cotypes, representing 11 species (56972: exchange).
- GEE, Prof. N. GIST, Soochow University, Soochow, China: A small collection of miscellaneous insects (55680); 237 modern Chinese coins—211 copper and 26 brass (55708).
- GENNELL, A. J., St. Ignace, Mich.: Fragment of limestone with natural markings resembling ornamental designs (55998).
- GEOLOGICAL SURVEY, DEPARTMENT OF MINES, Ottawa, Canada: Fishes from Vancouver Island (56221).
- GEORGETOWN, BRITISH GUIANA, SCIENCE AND AGRICULTURE DEPARTMENT (through Mr. G. E. Bodkin): Lepidoptera representing 5 species (55730).
- GEORGETOWN GAS LIGHT COMPANY, Washington, D. C.: Sample of gas-house coke (57123).
- GERDAU, OTTO, COMPANY, New York City: Photograph showing clusters of vegetable ivory fruits (56800).
- GERVAIS, Brother, Ancon, Canal Zone: 48 plants collected in the Canal Zone (55750).
- GHIDINI, A., Musée d'Histoire Naturelle, Geneva, Switzerland: 12 skulls of chamols, *Rupicapra rupicapra*, from Switzerland (57054: purchased from the Harrison fund).
- GIBSON, ARTHUR, Ottawa, Canada: 5 specimens of Microlepidoptera (55994); cotype of *Heliodines nyctaginella* (56700).
- GILL, DE LANCEY, Bureau of American Ethnology: Vertebra of a porpoise showing use as a polisher, found by the donor in a shell-heap near Chesapeake Beach, Md. (55866); 25 silver albumen prints (56576).
- GILL, G. W., U. S. National Museum: Crab, *Callinectes*, with ascidians and barnacle attached (55788); 2 salamanders from Virginia (55891); 8 miscellaneous insect larvæ (55924); marine shells from Rehoboth Beach, Del. (56099).
- GILLETT, Mrs. ALFRED S., Washington, D. C.: Commission of Samuel Jones as second lieutenant "Eighth Company, in a Regiment of Foot raised in the Colony of Connecticut." March 24, 1760; fragments of a letter written by Lieut. Samuel Jones to his father and mother on August 18, 1758, describing the battle of Ticonderoga; facsimile printed in 1844 of Henry Newman's Almanack published in 1691. (Presented in memory of Alfred S. Gillett) (56458); 23 pieces of pink lusterware (56459: loan).
- GILLETT, C. E., Philadelphia, Pa.: Lizard from Mexico (56082).
- GILLETTE, Prof. C. P., Colorado Agricultural College, Fort Collins, Colo.: 34 specimens of sawflies, including 14 types and 3 paratypes (56428: exchange). (See under Colorado Agricultural College.)
- GILMORE, C. W., U. S. National Museum: 36 bats, *Myotis*, from Teton County, Mont. (55934).

- GIRARD, ALFRED O., Milwaukee, Wis.: 240 ethnological specimens, including American Indian and Philippine costumes, weapons, baskets and oriental fabrics (55881: loan).
- GOETZ SILK MANUFACTURING COMPANY, New York City: 6 specimens of *peau de cygne* and cotton-back satin (57094).
- GOLDENSKY, ELIAS, Philadelphia, Pa. (through Mr. George W. Harris, Washington, D. C.): Photographic portrait of a lady (56587).
- GOLDNER, RUSSELL, Culver, Ind.: 4 living specimens of *Opuntia humifusa* from near Lake Maxinkuckee, Ind. (56626).
- GOODDING, LESLIE N., Flagstaff, Ariz.: 26 living specimens of Cactaceae from La Clénaga, Sonora, Mexico (55696); 3 ferns from Arizona (55719).
- GOURDON, MAURICE, Nantes, France: 2 skulls of *Sciurus vulgaris alpinus* from France (56667).
- GOVERNEUR, Miss MAUD C., Washington, D. C.: Pale blue silk dress embroidered in straw, which belonged to Mrs. Maria Hester Monroe Gouverneur, youngest daughter of President James Monroe (56208); Monroe relics, consisting of a silver chocolate pitcher and a silver cream jug (57002). Loan.
- GOWANLOCK, J. N., Winnipeg, Manitoba: An obsidian knife blade (56000).
- GRAY HERBARIUM, HARVARD UNIVERSITY, Cambridge, Mass.: 8 specimens of Empetraceae from British America (56164); specimen of *Polypodium* from Bolivia (56990). Exchange.
- GREEN, E. C., Maranhão, Brazil: Marine shells from near Guimaraes, Brazil (56044).
- GREEN, Mrs. HELEN COLES SINGLETON, Columbia, S. C.: Costume which belonged to Mrs. Abraham Van Buren, consisting of a blue velvet skirt and waist, with lining and hoops, a lace fichu, lace and embroidered handkerchief, and a fan (56167: loan).
- GREENE, C. T., Bureau of Entomology, Washington, D. C.: 36 Diptera from Falls Church, Va. (55874).
- GREENE CONSOLIDATED COPPER COMPANY, New York City: Copper ores from Cananea, Sonora, Mexico, received at the close of the Louisiana Purchase Exposition, 1904 (56799).
- GRISWOLD, Miss JENNIE M., Washington, D. C.: Needlework and wearing apparel, silverware, glassware, a velvet-and-brass-bound prayer book, and ethnological specimens, embracing 69 pieces (56611; 56985). Loan.
- GRONBEGER, S. M., Smithsonian Institution: An example of rapid rotary intaglio printing, "Lower Manhattan," from the etching by William Monk (57083).
- GROUT, Dr. A. J., New Dorp, N. Y.: 25 specimens of North American mosses (56126: purchase).
- GRUELICK, K. WILLIAM, Lafayette, Ind.: Moth, *Telega polyphemus* (55744).
- HAAGE AND SCHMIDT, Erfurt, Germany: 5 living specimens of Cactaceae, consisting of 1 specimen of *Cereus peruvialis* and 4 specimens of *Opuntia* (56939; 57023). Exchange.
- HAGUE, Mrs. ARNOLD, Washington, D. C.: Cape of Mechlin lace (55657).
- HALBACH, EDWIN, Washington, D. C. (through Mr. E. J. Brown): Snake, *Diadophis punctatus*, from the District of Columbia (55685).
- HALL, R. O., San Jose, Cal. (through Prof. F. W. Clarke): Samples of bindheimites from near Johannesburg, Cal. (56448).
- HALSALL, WILLIAM F., Provincetown, Mass.: 56 marine paintings in oil, including "Our Glory—Battleship Oregon" (56792: loan for special exhibition).
- HAMBURGER, M. E., Washington, D. C.: Specimen each of synthetic ruby and sapphire (56598: exchange).

- HAMILTON, DR. ALLAN McLANE, Great Barrington, Mass.: 2 early American chairs which belonged to Maj. Gen. Philip Schuyler; 2 early American chairs, 2 side-tables and a half-round mahogany table which belonged to Alexander Hamilton; and a small work-table which belonged to Mrs. Alexander Hamilton (56125).
- HAMMEL, Prof. R. J., Maquoketa, Iowa: Practice violin and a pair of German cymbals (56003: exchange).
- HAMMER, L. F., St. Louis, Mo.: Photograph of the donor (57133).
- HAMMOND TYPEWRITER COMPANY, Washington, D. C.: Hammond typewriter No. 147,859 (56782).
- HANBURY, Lady KATHERINE A., La Mortola, Ventimiglia, Italy: 45 living specimens of *Opuntia* and a packet of seeds of *Furcraea* (55785: exchange).
- HANCOCK, Dr. JOSEPH L., Chicago, Ill.: Type specimen of *Aneplerus rufipes*, a hymenopterous insect (56127).
- HANDY, Mrs. WILLIAM TORRENCE, Cynthia, Ky.: Velvet dress, costume of Mrs. Jane Irwin Findlay, wife of Gen. James Findlay, one of the mistresses of the White House during the administration of President William Henry Harrison, 1841 (56913: loan).
- HANFORD, CHARLES J., Sarasota, Fla.: 40 specimens representing 30 species of shells, and 2 fragments of fossil ribs (manatee?), from Sarasota (55769).
- HANSEMAN, Prof. DAVID PAUL VON, Berlin, Germany: A series of 16 prepared anatomical specimens; also copies in plaster of 12 brain casts (55859: exchange).
- HARMON, Mrs. T. S., Maryland, Md.: Handwoven coverlet (57006: purchase).
- HARRING, H. K., Bureau of Standards, Washington, D. C.: 6 microscopic slides of types of 6 new species of Rotifera, described by the donor
- HARRING, H. K.—Continued.
(55796); 97 microscopic slides of Rotifera from the District of Columbia (55967; 57029).
- HARRIS, GEORGE W., Washington, D. C.: Photographic portrait of a man (56583). (See under H. D. Beach, Frank Scott Clark, E. B. Core, J. H. Garo, Elias Goldensky, Dudley Hoyt, Henry Havelock Pierce, and J. C. Strauss.)
- HARRIS, Capt. J. R., Medical Corps, U. S. Army, Fort Slocum, N. Y.: An incomplete wild cock snare and a Moro buyo box of brass inlaid with silver (55688); Moro book, Moro musical instrument, "Jew's-harp," and a pair of Igorot statuettes (55961); 50 ethnological specimens, mostly Moro, including an outfit of Teraral bows and arrows, a kamplan, a kris with band-strings still attached; also a large bamboo mat and 2 palm leaf mats, Moro (56945).
- HARRIS, WILLIAM, Hope Gardens, Kingston, Jamaica: Poecilid fishes representing the genera *Gambusia* and *Poecilia* (56171); fishes known as "millions" or "minnows," *Girardinus poeciloides*, introduced from Barbados (56592).
- HARRISON, GEORGE L., jr., Philadelphia, Pa. (See under Oskar Fritsche, A. Ghidini and Thomas V. Sherrin.)
- HARVARD COLLEGE OBSERVATORY, Cambridge, Mass. (through Prof. E. C. Pickering, director): 38 photographs of stellar spectra, apparatus, etc. (55834).
- HAUSCHILD, M. L., Gjentofte, Denmark: About 680 insects, mostly Coleoptera, from various parts of the world, all determined by European specialists (56118).
- HAWKEYE PEARL BUTTON Co., Muscatine, Iowa: A collection showing the different stages in the manufacture of pearl buttons, the shells from which buttons are obtained, and a model of a boat and apparatus used in collecting the shells (56402).

- HAY, Dr. O. P., Washington, D. C.: Skull, lower jaw and 5 cervical vertebrae of a large fossil bison from Alaska (55703: purchase).
- HAY, Prof. W. P., Business High School, Washington, D. C. (through Mr. Austin H. Clark): 3 specimens of *Peripatoides novae-zealandiae* from New Zealand (56937).
- HAYNES AUTOMOBILE COMPANY, Kokomo, Ind.: A 6-cylinder automobile motor, so prepared as to show the internal mechanism and operation (56800).
- HAYNES, Miss CAROLINE C., Highlands, N. J.: 35 specimens of Hepaticae from North America (56306).
- HEINRICH, CARL P., U. S. Department of Agriculture, Washington, D. C.: 25 Diptera from Chesapeake Beach, Md. (56120).
- HELLER, Prof. A. A., Chico, Cal.: 37 plants mainly from Nevada (55988; 56162); 450 plants from California and Nevada (56273; 57111: purchase).
- HEMMICK, Mrs. CHRISTIAN D., Washington, D. C.: Silver plaque (Louis XVI, France); carved ivory plaque (early 18th century, Italian); carved ivory crosier (Italian); and an antique silk rug (57036: loan).
- HEMPFL, H. A., Buffalo, N. Y.: 6 quoins and 2 castings of quoins, invented by the donor (55761).
- HENDERSON, JOHN B., Washington, D. C.: Specimen of stomatopod, *Lydia squilla glabriuscula*, from off Fowey Rocks, Fla. (56081); 2,000 marine mollusks from Chincoteague, Va., with other invertebrates and a few fishes taken in the dredge (56362).
- HENRY, Miss CAROLINE, Washington, D. C.: A colored photograph of Prof. Joseph Henry and a collection of daguerreotypes and stereoscopic views, comprising 146 specimens (56668).
- HERBRUCK, R. A., Dayton, Ohio: Gartersnake, *Thamnophis sirtalis*, from Ohio (56838).
- HERREN, CARL, Newport, Oreg.: Specimen of *Himmites giganteus* (56788).
- HESS, FRANK L., U. S. Geological Survey, Washington, D. C.: Specimen of autunite from Penland, N. C. (55728); 6 specimens of torbernite with autunite and 1 of carnotite with davidite from Australia; also a specimen of tyuyamunite from Siberia (56354); 2 specimens of the mineral kolm from Stromsberg, Sweden (56515); specimens of torbernite from South Australia and one of cyrtolite and altered uraninite from Sprucepine, N. C. (56798).
- HESS, L., AND COMPANY, New York City: 4 1-yard lengths of linen dress goods, and 14 small samples of linen and cotton dress goods (56725).
- HESS, W. E., Mayaguez, P. R.: 54 ferns from Porto Rico (56479; 56552).
- HEYE, GEORGE G., The Heye Museum, New York City: Casts of Porto Rican stone collar, 2 zemes and a carved shell face-mask pendant; 7 fragments of pottery "graters" from Ecuador (56539: exchange).
- HILL, W. B., Renick, W. Va.: 7 specimens of *Platygonus*, including portions of skulls, lower jaws and limb bones (55775).
- HINKLEY, A. A., Dubois, Ill.: Land and fresh-water shells from Guatemala (56207); fossils (probably Oligocene) from the bank of a small stream entering Rio Dulce, Guatemala; sample of overlying limestone covering fossiliferous strata (56593).
- HIORAM, Brother, San Juan, P. R.: 25 ferns from Porto Rico and Mexico (55801; 56482).
- HOBSON, Mrs. ELIZABETH C. (through Mrs. Richard G. Lay, Washington, D. C.): Piece of Mechlin lace, 19th century (55654).

- HODGKINSON, H. H., Franklin Furnace, N. J. (through Dr. W. T. Schaller, Washington, D. C.): A specimen of hodgekinsonite (part of the type material described by Prof. C. Palache and Dr. Schaller (56247)).
- HOES, Mrs. R. R., Washington, D. C.: Relics relating to President James Monroe and his descendants—Side chair, footstool and a Chippendale table, brought from France in 1796 by Mr. and Mrs. James Monroe; standing dresser-mirror made of mahogany and one of the fragments left from the mirrors of the White House after its destruction by the British in 1814 (56297; 56546); pair of paste slipper buckles worn by James Monroe; and a vinaigrette, slipper, buckle and 2 pieces of dress silk, worn by Mrs. James Monroe (56342); seal, fan and a music book of 1818, which belonged to Mrs. Maria Hester Monroe Gouverneur, youngest daughter of James Monroe (56408); letter signed by James Monroe, March 2, 1786; letter transmitting French Revolutionary badge; also 5 French and American Revolutionary badges and decorations and a cockade, 2 razors (1 French and 1 English), and a silver spur, all worn and used by James Monroe (56460); collection of laces, embroideries, jewelry, books, etc. (57090). Loan.
- HOFFMAN, L. J., Burton, Nebr.: A concretion of ferruginous sand (56424).
- HOGAN, Mrs. LOUISE E., Rockaway Beach, N. Y.: Tiré filet bedspread prepared by the women of Porto Rico (55914; purchase).
- HOLABIRD, W. H., Los Angeles, Cal.: Dipterous and neuropteroid larvæ and work from southern California (56453).
- HOLLISTER, N., U. S. National Museum: 13 mammals, 5 birds and a snake, from Wisconsin (56036; 56418); skin of tufted titmouse, *Baeolophus bicolor*, from Maryland (56754).
- HOLLOWAY, JAMES B., Thermopolis, Wyo.: Portion of lower jaw of *Systodon tapirinum* (56822).
- HOLSTEIN, OTTO, San Antonio, Tex.: 25 bird skins from Ecuador (57028).
- HOME MISSION COMMITTEE OF GREENBRIER PRESBYTERY, Alderson, W. Va.: 8 stone implements found near Jerusalem (56814).
- HOOD, J. D., Bureau of Biological Survey, Washington, D. C.: 4 pairs of *Melanoplus* (56743).
- HOPKINS, Mrs. ARCHIBALD, Washington, D. C.: A Grover and Baker sewing machine, patented February 11, 1851, June 22, 1852, February 22, 1853, and May 27, 1856 (56470).
- HOPKINS, L. S., Kent, Ohio: Specimen of *Lycopodium* from Ontario (56405).
- HOUGH, JOHN S., Pittsburgh, Pa.: Brass token of the political campaign of 1852, bearing the portrait of Gen. Winfield Scott (56783).
- HOUGH, Dr. WALTER, U. S. National Museum: Piece of lace-bark, *Lagetta lutearia*, collected in Jamaica (55941).
- HOUSE, HOMER D., Albany, N. Y.: Fern from Oregon (55802); fern, *Woodsia*, from New York (55847).
- HOWARD, ELBERT, Doyle, Cal.: Specimens of fresh-water algae, *Chara* (57043).
- HOWELL'S MICROCOSM, Washington, D. C.: A small piece of Copiapo palasite (56698; exchange).
- HOYT, DUDLEY, New York City (through Mr. George W. Harris, Washington, D. C.): Photographic portrait of a lady (56586).
- HEDLIČKA, Dr. ALEŠ, U. S. National Museum: A pemmican hammer (Teton Sioux Indian), collected by Mr. Frank Mička (55760); skeleton of a mouse from Huarochiri, Peru (55781); mole, *Scalopus aquaticus* (55908); gray squirrel, *Sciurus carolinensis* (55951); flying squirrel, *Sciuropterus*, from Cleveland Park, D. C. (56087).

HULL, DR. EDWARD E., Philadelphia, Pa.: A spinning wheel and a yarn reel, supposed to have been in use on George Washington's plantation (56613).

HUNT, CLAIB, Colville, Wash.: 74 specimens, including basketry, bags and other ethnological material (56653: loan).

HURRY, RUTGERS IVES, New York City: Single-barrel pistol, Dumas A Lyon; double-action revolver, G. Mercenier (56842).

HUTER, JULIUS, sr., St. Louis, Mo.: Carapace of a turtle (56170); snake, *Lycodon aulicus*, from the Philippine Islands (56641); turtle from Mobile, Ala. (56848).

HUSSEY, CHARLES H., MORSE S. DUFFIELD, and FRANCIS L. WOODS, Ogden, Utah: A large specimen of quartz containing tungsten minerals (56287).

HYDE, A. G., & SONS, New York City: 4 2-yard lengths of all cotton and cotton and silk fabrics (56853).

HYDE, FREDERIC BULKELEY, Washington, D. C.: A bag of ancient Maori featherwork (56227); Hawaiian dance skirt made from palm fiber (56499); mounted loon, *Gavia imber*, from Maine (56962).

IDA, Y., Kagoshima, Japan: Volcanic material from Sakurajima, Kagoshima (57088: purchase).

INDA, J. RIQUELMA, Mexico, Mexico: 18 insects (56623).

INDIAN MUSEUM. (See under Calcutta, India.)

INGLIS, JOHN, Magnet, Ark. (through Mr. Frank L. Hess, U. S. Geological Survey): Specimen of brookite from Magnet (55727).

INTERIOR, DEPARTMENT OF:

Original application for a pension, with related papers, filed by Col. Aaron Burr in 1834 (55700); skulls of 3 bison and skin of a black bear, skin and skull of brown bear, *Ursus americanus*, and robe and skeleton of a buffalo, *Bison americanus*, received through the superintendent of the

INTERIOR, DEPARTMENT OF—Continued.
Yellowstone National Park (55984; 56007; 56431).

U. S. Geological Survey: 35 specimens and 25 petrographic slides of rocks from the Santa Cruz quadrangle, Cal., illustrating Geologic Folio No. 163 (55704); 50 concretions collected from various localities in the West by Mr. C. W. Washburne (55739); 294 rock specimens with 164 microscopic slides, illustrating the geology of the Eastport quadrangle, Me., described by Mr. Edson S. Bastin and Mr. Henry S. Williams (55762); 8 specimens of rocks from the Black Hills, S. Dak., collected in connection with the report on the geology of the Northern Black Hills, by Mr. N. H. Darton (55797); 50 specimens of rocks collected by Mr. Darton to illustrate the geology of the Deming quadrangle, N. Mex. (55871); 110 rocks collected by Dr. George I. Finlay to illustrate the geology of the Colorado Springs folio (55823); rocks collected during the summer of 1913 by Messrs. Miser, Ferguson, Diller, Hunter and Loughlin, for use in the preparation of educational sets (56054); collection of rocks illustrative of Bulletin 492, "The gabbros and associated rocks of Preston, Connecticut" (56159); 3 small lots of vertebrate fossils collected by Mr. Dean E. Winchester in the Datil Mountain coal field of New Mexico (56213); 16 boxes of thin sections of rocks and ores from the Marysville and Butte districts, Mont. (56232); 111 specimens of rocks collected chiefly by Mr. W. C. Phalen in and near the Ellijay quadrangle of Georgia, North Carolina and Tennessee (56239); specimen of pyrite from the Stella Mine, Stellaville, St. Lawrence County, N. Y., collected by Mr. Phalen (56423); 4 small lots of vertebrate fossils collected by Mr. E. Russell Lloyd in Morton County, N. Dak. (56248); 62 rock specimens illustrating the geology of the Tacoma quadrangle, Wash., collected in

INTERIOR, DEPARTMENT OF—Continued.

1896 by Dr. Bailey Willis and Dr. G. O. Smith and described in Geologic Folio No. 54 (56254); 30 specimens of basalt from Mt. Stuart quadrangle, Wash., collected by Mr. I. C. Russell in 1899 and described in the 20th Annual Report of the Survey (56255); specimens of inyoite, meyerhofferite and blöedite from California (56286); 9 small lots of vertebrate fossils collected by Mr. C. F. Bowen in the Walcott quadrangle, Wyo. (56317); 91 specimens of rocks from the Hawaiian Islands, collected by Dr. Whitman Cross in 1902, to be described in a Professional Paper of the Survey; and 3 specimens of rocks from the Hawaiian Islands, collected by Mr. Waldemar Lindgren and described by him in Water Supply Paper No. 77 (56318); 84 specimens of rocks from the Butte district, Mont., collected by Mr. G. W. Tower and Dr. S. F. Emmons (56319); humerus of a bison, collected by Mr. Jos. C. Gawler in the bed of the Rio Grande at Elephant Butte, N. Mex. (56364); Permian vertebrate fossils obtained by Mr. Carroll H. Wegemann in the Red River oil field of Oklahoma (56372); 19 rock specimens illustrating a report on "Coal on Dan River, North Carolina," published in Bulletin 471, Part B (56381); 71 specimens of country rock and ore collected by Mr. R. W. Stone in 1911 and 1912 during the examination of the Northern Pacific Railway land grant lands in Montana (56387); specimens of country rock and rock phosphate from the Elliston phosphate field, Mont., and specimens of country rock and mineral deposits from Flathead Indian Reservation, Mont., collected by Mr. Stone in 1912 and 1913 for the purpose of land classification (56953; 56954); a figured specimen of *Scutaster andersoni* from the Miocene of Mount Pinos quadrangle, Cal. (56413); a small collection of fossil fish remains

INTERIOR, DEPARTMENT OF—Continued.

from the Caney shale of Oklahoma, collected by Dr. George H. Girty (56445); carboniferous invertebrates from the Manzano group of New Mexico, described by Dr. Girty in Survey Bulletin No. 389 (56812); a collection of fossil insects obtained by Mr. E. G. Woodruff from the Green River formation on the east side of Evacuation Creek, near Ute Station, on the Uintah Railway, eastern Utah (56446); 6 small lots of Tertiary vertebrate fossils collected by Mr. Woodruff in north-eastern Utah (56474); 21 specimens of phosphate rock from the Phosphate District, Perry County, Tenn., described by Dr. Charles Willard Hayes in the 17th Annual Report of the Survey, Part 2 (56449); 62 rock specimens from the Klamath Indian Reservation, Oreg., collected by Mr. H. G. Ferguson in October and November, 1913 (56450); 45 specimens of rocks, chiefly rhyolites, from the Bullfrog district, Nev., described in Survey Bulletin No. 303 (56476); 7 boxes of Cretaceous vertebrate fossils collected in 1913 by Mr. C. W. Gilmore in the Two Medicine formation of the Blackfeet Indian Reservation, Mont. (56678); hand specimens and thin sections of rocks and minerals from the Philipsburg quadrangle, Mont., described in Professional Paper No. 78; 3 specimens of soil and tuff from east-central Washington, described in Water Supply Paper No. 118 (56820); collection of rocks from a strip approximately ten miles wide along the northeastern boundary between Porthill, Idaho, and Lake Osoyoos, Wash., consisting of 357 specimens; also thin sections of the same (56821); collection of fossil plants from Cape Lisburne, Alaska, obtained by Prof. Arthur J. Collier in 1904, and described by Dr. F. H. Knowlton in Professional Paper No. 85, Part D (56850); fragments of a soapstone jar found by Mr. N. H. Darton at an altitude of

INTERIOR, DEPARTMENT OF—Continued.

10,100 feet, 3 miles southwest of the summit of Cloud Peak, Big Horn Mountains, Wyo. (56901); a barite concretion with radial structure, collected by Mr. C. A. Bonine 30 miles northeast of Ekalaka, Mont. (56931); 2 boxes of specimens and drill cores from the Ordovician outlier at Hyde Manor, Sudbury, Vt., collected by Mr. T. Nelson Dale and described in two papers in the American Journal of Science (56932); a collection of Cretaceous plants mostly from the Tuscaloosa formation, comprising the types and figured specimens described by Mr. E. W. Berry (56955); collection of Cretaceous and Tertiary plants comprising the types and figured specimens described by Mr. Berry in Professional Paper No. 84 (56994); 25 specimens of *Exogyra*, constituting the types and figured specimens described by Dr. L. W. Stephenson in Professional Paper No. 81 (56995); specimens of glauconite and colemanite from California, and a nodule of pyrite from Texas (57051). (See under Carnegie Institution of Washington.)

Office of Indian Affairs: An Indian war bonnet (56282: loan).

INTERNATIONAL FISHERIES COMPANY, Tacoma, Wash.: Skull of a common harbor porpoise, *Phocaena* (56494).

IRELAND, C. F., Port Arthur, Tex.: Spinal bone of a spade-fish (also known as sheepshead porgy or white angel-fish), *Chatodipterus faber* (55836).

IRELAND, DEPARTMENT OF AGRICULTURE AND TECHNICAL INSTRUCTION FOR, (FISHERIES BRANCH), Dublin, Ireland: Specimens of deep-water echinoderms representing 16 species (56956).

JACKSON, Miss FANNIE A., Yonkers, N. Y. (through Mrs. Julian James): 2 beaded pouches or bags made by the Iroquois Indians, and a pair of baby's beaded moccasins made by the Sioux Indians (57084); 2 dresses,

JACKSON, Miss FANNIE A.—Continued. gloves, slippers and lava jewelry which belonged to the family of Thomas Reed Jackson, architect of the Academy of Music, New York City, and his wife Charlotte R. Myers Jackson (57128: loan).

JACKSON, H. H. T., Bureau of Biological Survey, Washington, D. C.: 3 lampreys from Riverdale, Md. (56927).

JACKSON, Mrs. THOMAS R., Yonkers, N. Y. (through Mrs. Julian James): A gold-and-ribbon insignia of membership of the National Society of the Daughters of the American Revolution (56131: loan).

JACOBS, C. H., Philadelphia, Pa.: 2 specimens of cusk-eel, *Ophidium marginatum* (55742).

JAHN, Dr. ALFREDO, Caracas, Venezuela: 300 plants from Venezuela (55811: purchase).

JAMES, I. E., Pittston, Pa. (through Mr. David White, Washington, D. C.): 2 carboniferous plants (56722).

JAMES, Mrs. JULIAN, Washington, D. C.: Marine shells and other invertebrates collected by Lieut. Commander T. B. M. Mason, U. S. Navy, chiefly on the western coast of America (56026); fan of pandanus from Honolulu, Hawaii (56324); an old copy of Milton's "Paradise Lost" (56409); a graphoscope, 103 stereoscopic views and 2 daguerreotypes (56442; 57086); a pamphlet entitled "Roll of Honor of the Seventh Regiment, National Guard, S. N. Y." (56780: loan); 6 pieces of Japanese cloisonné; collection of wearing apparel and accessories and articles pertaining to the occupations and amusements of ladies and gentlemen of the 19th century; oil painting "View up the Hudson," by Robert Weir (57087: loan); 3 billiard cues used by, and 8 bound volumes relating to, members of the Bailey-Myers-Mason families (57129: loan). (See under Miss Fannie A. Jackson, Mrs. Thomas R. Jackson, Miss L.

- JAMES, Mrs. JULIAN—Continued.
L. Lander and Mrs. John E. McElroy.)
- JEFFREY MANUFACTURING COMPANY,
Columbus, Ohio: 7 photographic enlargements of views of Jeffrey apparatus at work in coal mines (56585).
- JENKINS, C. FRANCIS, Washington, D. C.: Design of motion picture projector (56293).
- JENNINGS, ALLAN H., Bureau of Entomology, Washington, D. C.: About 100 specimens of fresh-water shells from Antigua and Barbados; specimens of young toads, *Bufo marinus*, from Barbados (56749).
- JENNINGS, W. P., Salt Lake City, Utah (through Mr. Victor C. Heikes): A stalactite coated with calcite and malachite crystals (56784).
- JOBE, ROBERT L., Elizabethton, Tenn. (through Mr. J. C. Ayer, Philadelphia, Pa.): A specimen of actinolite from Avery County, N. C. (55931).
- JOHNSON, Dr. H. L. E., Washington, D. C.: A fiber garment made by the Guapore Indians, Guapore River, northern Brazil, and 2 wasp nests from the same locality (56839).
- JOHNSTON, H. F., Carnegie Institution of Washington, Washington, D. C.: Specimen of *Oryza* from Java (56948); specimen of fruit of the "double cocoanut," collected on the coast of Mauritius (56982).
- JONES, MARCUS E., Salt Lake City, Utah: 15 specimens of living Cactaceae from Utah (55651; 56090); 12 plants from Utah (55833: exchange).
- JORDAN, Miss SUSAN D., Meredithville, Va.: Larva of *Prionus laticollis* (56649).
- JUDD, NEIL M., U. S. National Museum: 23 archeological and ethnological specimens from the interior of Guatemala, collected by Mr. Judd (57062: purchase).
- KAHN, Dr. ULYSSES S., New York City: 8 progressive proofs of 4-color halftone reliefs made from an autochrome plate of a stained glass window, together with the autochrome plate (57101).
- KAIN, JOHN Q., Matagorda, Tex.: Invertebrates, 6 species of mollusks from Texas, and specimens of beans (56691).
- KAISERLICHER BOTANISCHER GARTEN PETER DES GROSSEN. (See under St. Petersburg, Russia.)
- K. K. NATURHISTORISCHES HofMUSEUM. (See under Vienna, Austria.)
- KARPELES, Dr. S. R., Washington, D. C.: An anatomical specimen (56501).
- KEASBEY AND MATTISON COMPANY, Ambler, Pa.: 105 samples of asbestos (56625).
- KELEHER, Miss EDITH R., Washington, D. C.: 6 earthworms (57038).
- KELEHER, T. A., Washington, D. C.: Entomological specimens exhibiting the life cycle of the silkworm moth, including eggs, larvæ and chrysalis in formalin; whole and pierced cocoons, and moths; also small school cabinet (56088).
- KENNAN, Mrs. GEORGE, Medina, N. Y.: Kaffir knob-kerry (56701: loan).
- KENNEDY, CLARENCE H., Sunnyside, Wash.: 48 Odonata (*Argia emma*, n. sp., types and cotypes of adults and nymphs; *A. virida*, adults and nymphs) (56280).
- KERTESZ, Dr. K., Hungarian National Museum, Budapest, Hungary: About 10 specimens of Diptera (55673).
- KEYSER, E. M., Ancon, Canal Zone: 2 lepidopterous larvæ, *Pseudosphinx tetrio* and *Megalopyge lanata* (55698); beetle, *Euchroma goliath*, and a spider, *Acrosoma obtusospina* (55856).
- KEYSER, E. W., Washington, D. C.: 17 ethnological specimens from the United States, Paraguay, west Africa and the Philippine Islands (56500: exchange).

- KIMBALL, Miss LAURA F., National City, Cal.: 3 ferns from California (56878).
- KNAB, FREDERICK, Bureau of Entomology, Washington, D. C.: Specimen of *Castalia* from Virginia (55879); 1,457 insects, mostly Diptera, from Chesapeake Beach, Md., Virginia Beach, Va., and the vicinity of Washington, D. C. (56119; 56563).
- KOLB, HENRY M., Philadelphia, Pa.: An old gun barrel with one side cut away to show the form of rifling (56928).
- KÖNIGL. BOTANISCHER GARTEN UND BOTANISCHES MUSEUM. (See under Berlin (Dahlem bei Steglitz), Germany.)
- KÖNIGL. ZOOLOGISCHES MUSEUM. (See under Berlin, Germany.)
- KOTINSKY, J., U. S. Department of Agriculture, Washington, D. C.: 3 insects (56436).
- KOZU, Dr. S. Geological Institute, Imperial University, Sendai, Japan: A volcanic bomb (56269); sample of bronzite from Japan (56475).
- KRANTZ, Dr. F., Bonn, Germany: Plaster casts of the skull of *La-Chapelleaux-Saints*, with brain cast; the lower jaw bone of *Propliopithecus hækli*; the lower jaw bone of *Parapithecus frass*; and the lower M₁ and M₂ of *Mæripithecus markgrafi* (55754: purchase); 3 meteorites, 15 minerals and 2 vertebrate fossils (56858: exchange).
- KRIEGER, Dr. R., Leipzig, Germany: Specimen of *Xanthopimpla kriegeri* (56154).
- KRYGER, J. P., Gjentofte, Denmark (through Dr. Adam Giede Böving): 124 vials of parasitic Hymenoptera (56554).
- KUALA LUMPUR, FEDERATED MALAY STATES, FEDERATED MALAY STATES MUSEUMS: 2 specimens of *Zosterops* from the Malay Peninsula (56810).
- KUEHLING, J. H., Mount Vernon, Va.: Snake from Virginia (57067).
- KUPFER, HENRY, & COMPANY, New York City: 5 2-yard cuts of fancy printed velveteens (56854).
- LA FLESCHÉ, FRANCIS, Bureau of American Ethnology: Nodule of iron ore suggesting an art form (56053); a bundle of counting-sticks, used in ceremonies by the Osage Indians, Oklahoma (56407).
- LAMB, Dr. D. S., Army Medical Museum, Washington, D. C.: 2 anatomical specimens (56655; 56844).
- LANDER, Miss L. L., Washington, D. C. (through Mrs. Julian James): 2 India shawls and a black malines lace veil, owned by Miss Lander's mother (56079).
- LANGHORNE, MARSHALL, Washington, D. C.: Beetle, *Megasoma elephas*, from San José, Costa Rica (55993).
- LA SALLE COLLEGE, Ancon, Canal Zone (through Brother G. Ireneo): Coelenterates and echinoderms (56846).
- LATCH, EDWARD H., Washington, D. C.: Specimen of towhee bunting, *Pipilo erythrophthalmus*, from Washington (56009).
- LAWRENCE AND COMPANY. (See under Pacific Mills.)
- LAWSON, J. B., Sevierville, Tenn.: Sample showing psilomelane coating quartz (56886).
- LAY, Mrs. RICHARD G., Washington, D. C.: 2 pieces of Spanish macramé lace (55658).
- LEA, ARTHUR M., Adelaide, South Australia: 13 beetles from Australia (56541).
- LEAVY, JOSEPH B., U. S. National Museum: 16 uncanceled United States postage stamps (56415).
- LE BLOND, ROBERT E., Cincinnati, Ohio: 3 Baxter oil prints (56343).
- LEE MARBLE WORKS, Lee, Mass.: 2 slabs of dolomitic marble from Lee (56084).
- LEHIGH UNIVERSITY (DEPARTMENT OF GEOLOGY), South Bethlehem, Pa.: 11 specimens of native copper from Mexico, and 9 specimens of carnotite from Mauch Chunk, Pa. (56357).

- LEIBERG, Mrs. CARRIE E., Leaburg, Oreg.: The cryptogamic herbarium of the late John B. Leiberg, mainly comprising mosses, hepatics and lichens from the western part of the United States (56396).
- LEIPZIG, GERMANY, MUSEUM FÜR VÖLKERKUNDE: Ethnological objects from the lower Niger (55702: exchange).
- LELAND STANFORD JUNIOR UNIVERSITY, Stanford University, Cal.: Type specimen of *Enophrys taurinus* (56220); type specimen of *Ranzania makua* from Hawaii, and type and paratype of *Salmo evermanni* from California; 51 batrachians and reptiles from California and Nevada (56327); fishes collected in Japan by Dr. D. S. Jordan and Dr. J. O. Snyder, and fishes collected in California by the latter (56467); 64 plants from California and 191 from the Galapagos Islands (56628: exchange).
- LERMOND, N. W., Thomaston, Me.: Marine shells, representing 4 species, from Boca Ciega Bay, Fla. (56394).
- LESHER, WHITMAN & Co., INC., New York City: 12 specimens of white and colored fancy cotton and cotton and artificial silk dress goods (57077).
- LEVY, MAX, Philadelphia, Pa.: 13 engraved screens for halftone process; also a catalogue of "perfected engraved gratings" manufactured by the donor (56471).
- LEVY, WALTER H. (See under Walter T. Fremlin.)
- LEWIS, NELY, Biloxi, Miss.: 4 skins of muskrat, *Ondatra rivaltica*, from Biloxi (56527).
- LEWIS, WALTER P., Phillipsburg, N. J.: An abrading stone (55713); hammer or rubbing-stone from an ancient village site at Phillipsburg (55819).
- LIDDELL, WILLIAM, AND Co., New York City: Glazed box showing series of flax products, 2 2-yard lengths of cream damask tablecloth linen, 2 bleached damask tablecloths, colored damask tablecloth and a 1-yard length of plain grass-bleached linen (56946).
- LIÈGE, BELGIUM, UNIVERSITÉ DE LIÈGE: Casts of the skeletal remains of the Spy man (55868: exchange).
- LILLY, ELI, AND Co., Indianapolis, Ind.: Specimen of *Brosimum alicastrum* from Mexico (56263).
- LINDINGER, Miss ANTONIE, Philadelphia, Pa.: Ancient German coin scales and weights (56796: purchase).
- LINDLEY, Miss D. M., Louisville, Ky.: Small piece of okouma wood or Gaboon mahogany, *Aucoumea kleinitana*, belonging to the family Burseraceae (56302).
- LINTON, Dr. EDWIN, Washington and Jefferson College, Washington, Pa.: A limestone pebble, "pseudo-antiquity" (56202).
- LOYD, E. E., PAPER COMPANY, Chicago, Ill.: 40 examples of rubber offset printing on the donors' "artist offset paper" and "offset bristol" (55973).
- LOYD, E. RUSSELL, U. S. Geological Survey, Washington, D. C.: Specimens of fresh-water shells from Cannonball River, Morton County, N. Dak. (56156).
- LOCKWOOD, HOMER N. (through Mr. Thomas W. Lockwood, jr., and the American Security and Trust Company, Washington, D. C., executors): 152 walking canes, marble model of Taj Mahal, and a mahogany cabinet of curios consisting of unmounted gems, carvings, enamels, lacquers, pottery, bronzes, inlaid work, embroidery, scarabs, etc. (56368: bequest).
- LONDON, ENGLAND, BRITISH MUSEUM (NATURAL HISTORY): 150 grasses from South America (55810: exchange).

- LONG, The Misses, Washington, D. C.: 8 specimens of laces and embroideries (55872); 65 articles mainly worn and used in the "sixties" (56711). Loan.
- LOWE, H. N., Long Beach, Cal.: Crab, *Galathea californiensis* (56562); 8 marine shells from Alaska and 30 land shells from California and Lower California (56567); 4 specimens of crab, *Randallia ornata* (56713: exchange).
- LUDLOW, Dr. CLARA SOUTHWAYD, Washington, D. C.: Daguerreotype of Ann Mary Hunt Ludlow (the donor's mother), taken about 1848, daguerreotype of Ada Schenck Hunt, taken about 1840, and a silver spoon of 1850—additions to "The Sutphen-Schenck-Hunt Memorial Collection" (55659; 55816); Insects from the Philippine Islands (56622).
- LUNELL, Dr. J., Leeds, N. Dak.: 8 plants from North Dakota (55937).
- LYMAN, V. A., Necaxa, Puebla, Mexico: Specimen of tailed whip-scorpion, *Mastigoproctus giganteus*, and a millipede (55862).
- LYNAM, Rev. JOSEPH P., S. J., Stann Creek, British Honduras: 12 bats and a beetle, 4 specimens of starfish, *Oreaster reticulatus*, a snake, *Coniophanes imperialis*, head of a Tomagof snake, *Bothrops atrox*, several screw worms and 15 ferns, collected in British Honduras (55772; 55925; 56137; 56235).
- LYON CYPRESS LUMBER COMPANY, Garyville, La.: 2 specimens of best grade mottled cypress lumber (57065: purchase).
- LYON, Dr. M. W., jr., Washington, D. C.: Nest and 3 eggs of Carolina wren, *Thryothorus ludovicianus*, from Great Falls, Va. (56965).
- MCADORY, Mrs. E. L., San Francisco, Cal.: 2 cut glass candle globes (55746: loan).
- MCATEE, W. L., U. S. Department of Agriculture, Washington, D. C.: 62 specimens of reared Hymenoptera
- MCATEE, W. L.—Continued.
from Plummer's Island, Md., and vicinity (56493).
- MACBETH-EVANS GLASS COMPANY, Charleroi, Pa.: Blown glass series comprising a tank furnace, pot furnace, glass worker's tools, and crude, intermediate and finished products of the art (57045); glory-hole model and pot arch model (57114).
- MCCALLIE, Prof. S. W., State geologist, Atlanta, Ga.: 14 specimens of *Goniatites* from the Subcarboniferous shales of Floyd County, Ga. (56147); Tertiary limestone containing about 200 specimens of bryozoans (56215).
- MCCLELLAND, Mrs. E. L., Washington, D. C.: Collection of shawls, laces, jewelry, etc., embracing 39 specimens (56845: loan).
- MCDERMOTT, F. ALEX., University of Pittsburgh, Pittsburgh, Pa.: Beetle, *Gibbium psyllodes* (55995).
- MCELROY, Mrs. JOHN E., Albany, N. Y. (through Mrs. Julian James): Camel's-hair shawl (57100: loan).
- MCGEEHEE, LEE, Mason, Tex.: Large topaz crystal from Texas (56388: purchase).
- MCILHENNY, E. A., Avery Island, La. (through Bureau of Fisheries): 2 specimens of *Rangia flexuosa*, dug from a canal in a marsh bordering on Vermillion Bay, La. (56375).
- MACKENSEN, Prof. BERNARD, San Antonio, Tex.: 8 living specimens of Cactaceae from Texas (56140); living specimen of *Opuntia davisi* from Texas (56358: exchange); 4 photographs of Cactaceae (56949).
- MCLAIN, Miss ALICE C., Adamana, Ariz.: Charred fragments of ancient textiles from pueblo ruins near Adamana, and specimens of fossil wood and supposed fossil fruit (56439).
- MCLEANE, Mrs. ALLAN, Washington, D. C.: 3 bonnets, period of 1850, and a fur muff (56999: loan).
- MCLEAN, JOHN R., Washington, D. C.: Cloth-of-gold dress and a coat trimmed with jewels, worn by the

MCLEAN, JOHN R.—Continued.

late Mrs. John R. McLean (56791: loan).

MCLEES, FRANK, AND BROTHERS, New York City: 51 examples of cerotype printing and 4 of ceroplate printing (56391).

MCMAHON MUSEUM. (See under Quetta, Baluchistan, India.)

MACMANUS, GERALD O'C., Corpus Christi, Tex.: Gold medal of Napoleon I, commemorating the birth of the "King of Rome" in 1811 (55918).

MCNEAL, J. G., Sebring, Fla.: Tailed whip-scorpion, *Thelyphonus giganteus*, and "worm lizard," *Rhineura floridana*, from Florida (55793; 56516).

MCNEILL, L. H., Mobile, Ala.: Fern from Alabama (55692).

MACOUN, JOHN, Sidney, British Columbia: 203 specimens of cryptogams from Canada (57027: purchase).

MAINE FELDSPAR COMPANY, Brunswick, Me.: 3 large specimens of pegmatite and about 100 hand specimens of feldspar, from the quarries at Topsham, Me. (55893).

MANILA, BUREAU OF EDUCATION. (See under Philippine Islands, Government of the.)

MANILA, BUREAU OF SCIENCE. (See under Philippine Islands, Government of the.)

MANILA, UNIVERSITY OF THE PHILIPPINES. (See under Philippine Islands, Government of the.)

MARETT, R. R., Exeter College, Oxford, England: Flint implements and shop refuse of flint work, from two paleolithic caves in Jersey (56924).

MARINE BIOLOGICAL LABORATORY, Woods Hole, Mass.: 12 specimens representing 9 species of invertebrates (55722: purchase); crabs, *Hyas* and *Lithodes*, from off the shore at Gloucester, Mass. (56272); shrimp, *Glypturus acanthochirus*, and some mollusks (56574); 27 specimens representing 13 species of crustaceans

MARINE BIOLOGICAL LABORATORY—Con. and actinians, chiefly from Jamaica, 20 fishes from Jamaica and 2 from Gloucester, and 4 species of mollusks from Florida (56769: exchange).

MARKS, J. N., Kingsland, Ark.: A drilled stone tablet or "gorget" from Tennessee (55940).

MARSH, G. E., Georgetown, Colo.: Plant, *Aquilegia saximontana*, from Colorado (55763).

MARSHALL, ERNEST B., Laurel, Md.: Mole, *Scalopus aquaticus*, pileated woodpecker, *Phlæotomus pileatus*, 3 specimens of towhee, *Pipilo erythrophthalmus*, 2 specimens of Cooper's hawk, *Accipiter cooperi*, and common weasel, *Mustela noveboracensis*, from Maryland (56014; 56055; 56331; 56682; 56884; 57092); skull of an otter, *Lutra canadensis*, and of a muskrat, *Ondatra zibethica macrodon*, from North Carolina (56455).

MARSHALL, GEORGE, U. S. National Museum: Skull of *Equus caballus* (55917); fox squirrel, *Sciurus niger neglectus*, pine mouse, *Pitymys pine-torum*, American coot, *Fulica americana*, and white-breasted nuthatch, *Sitta carolinensis*, from Maryland (56186; 56325; 56329).

MARSHALL, H. B., Halifax, N. C.: Swamp rabbit, *Sylvilagus*, from Halifax (56086).

MARTIN, Dr. HENRI, Paris, France: Collection of paleolithic relics from La Quina (Charente), France, received through Dr. Charles Peabody, Cambridge, Mass. (55671); cast of the La Quina skull (55712: exchange).

MARVIN, W. E., Yuma, Ariz.: Specimen of *Asclepias* from Arizona (56064).

MASON, J. N., Lometa, Tex.: Specimen of celestite (56973).

MASON VALLEY MINES COMPANY, Mason, Nev. (through Mr. Victor C. Helkes, Salt Lake City, Utah): A

- MASON VALLEY MINES COMPANY—CON. specimen of copper ore from Mason Valley mine, Yerington District, Lyon County, Nev. (56785).
- MASSACHUSETTS AGRICULTURAL EXPERIMENT STATION, Amherst, Mass.: Specimen of a geometrid, *Therina pellucidaria*, and 2 specimens of the spruce bud worm, *Tortrix fumiferana* (55813).
- MATHES, K. B., Batavia, N. Y.: 22 specimens of Cretaceous fossils (56619: exchange).
- MATHIESON ALKALI WORKS, Saltville, Va. (through Dr. O. P. Hay, Washington, D. C.): Specimens of *Elephas*, *Mastodon* and *Bison* (56915).
- MATIEGKA, Prof. J., Prague, Bohemia (through Dr. Aleš Hrdlička): 10 recent skulls from Mělník, Bohemia; and 6 skeletons, with 2 additional skulls (10th to 11th century, A. D.), from Rousovice, near Mělník (55888: collected for the Museum).
- MATTHEWS, Mrs. CAROLINE, Washington, D. C.: 19 Navaho blankets and 3 models of blanket frames, collected by the late Dr. Washington Matthews between the years 1880 and 1884; 6 miscellaneous Indian specimens (57003: loan).
- MAXON, WILLIAM R., U. S. National Museum: 400 ferns from North America (55964).
- MEARNS, Lieut. Col. EDGAR A., U. S. Army (retired), U. S. National Museum: Salamanders from Virginia and the District of Columbia (55968; 56074; 56172; 56212; 56768); marine, land and fresh-water shells, skin of bob-white, *Colinus virginianus*, and skull of *Anas rubripes*, from Virginia (56100; 56155; 56176); water-worn pebble (pseudo-antiquity), from the District of Columbia (56300); 1577 skins, 48 skeletons and 780 eggs of birds, shells, plants, insects, skin and skull of a mammal, and a few geological specimens, from New York, Minnesota, Arizona, Europe and Asia (56311).
- MEARNS, Mrs. EDGAR A., Washington, D. C.: Collection of plants and 150 bird skins, from New York, Arizona and Minnesota (56314).
- MELICHAR, Dr. L., Brünn, Austria: 33 named Homoptera (56497: exchange).
- MELL, C. D., Forest Service, Washington, D. C.: 7 plants from British Guiana and Trinidad (56827).
- MERRIAM, Dr. C. HART, Washington, D. C.: Specimens of *Amnicola* from an ant hill in an old lake bed in Skull Valley, Utah (56040).
- METCALF, WILLIAM, Mystic, Iowa: 3 fossil shells, cast of a plant stem, and a specimen of *Edestus crenulatus* (56579).
- MICHELSON, Dr. TRUMAN, Bureau of American Ethnology: 8 ethnological specimens from the Fox Indians (55858: purchase).
- MICHIGAN, UNIVERSITY OF, MUSEUM OF ZOOLOGY, Ann Arbor, Mich. (through Dr. Alexander G. Ruthven, director): Lizard, *Basiliscus*, from Santa Marta Mountains, Colombia, South America (56194); batrachian, paratype of a new species, from Colombia (56832).
- MIOČKA, FRANK, U. S. National Museum: Skeleton of an adolescent female Sioux Indian, excavated at Fort Yates, N. Dak. (55956).
- MIGEL, M. C., & COMPANY, New York City: 8 sample cuts of printed pussy willow taffeta, first examples of "Ad Hoc" printing in the United States (57026).
- MILLER, GERBET S., jr., U. S. National Museum: Skull of *Microtus pennsylvanicus*, specimen of shrew, *Cryptotis parva*, and of Cooper's hawk, *Accipiter cooperi*, and a crayfish, from Virginia (55854; 56122; 56185; 56737); 2 turtles from Mississippi (56517).
- MILLER, Dr. HUGO H., Bureau of Education, Manila, P. I.: Mandayan skirt cloth (56912: purchase).

MILLER, J. F. D., Macon, Ga.: Pocket-gopher, *Geomys*, from Mitchell County, Ga. (56203).

MILLS NOVELTY COMPANY, Chicago, Ill.: Violano-Virtuoso (home style, model of 1914) and 6 music rolls (56968).

MILLWARD, RUSSELL HASTINGS, Belize, British Honduras: About 5,300 specimens of small marine shells from Isla de Mujeres, Quintana Roo, Yucatan, Mexico (56216).

MISSOURI BOTANICAL GARDEN, St. Louis, Mo.: 1 specimen and 5 photographs of *Opuntia* (56101); 1,075 plants from the herbarium of Henry Egert (56271). Exchange.

MITCHELL, MISS EFFA BELLE, Chana, Ill.: 6 white shell arrowpoints found in Pine Rock Township, Ogle County, Ill. (56076).

MITCHELL, Hon. J. D., Victoria, Tex.: 990 specimens of *Bulimulus* and *Glandina*, from 43 localities in Texas (56190); 20 earthworms from Guadalupe River bottom, Victoria County, Tex. (56806).

MITCHELL, J. W., East Falls Church, Va.: Snake, *Diadophis punctatus*, from Fairfax County, Va. (55904).

MITCHELL, MASON, American consul, Apia, Samoa: Dried specimen of pectoral rail, *Hypotaenidia philippensis* subspecies, and a bird egg, from Samoa (55820); 5 bird skins from Samoa and the Ellis Islands (56469).

MITSU BISHI COMPANY, Tokyo, Japan: Model of the Takashima coal field, received at the close of the Louisiana Purchase Exposition, 1904 (57124).

MITSUI & Co., LIMITED, New York City: Book (5 pounds) of the best grade of raw Japanese silk (56644).

MITZMAIN, M. B., Washington, D. C.: 25 insects (56770).

MOGI, MOMONOI AND COMPANY, New York City: 11 samples of Japanese printed cotton toweling and napery (57005).

MOHEGAN GRANITE COMPANY, New York City: A slab of dark Mohegan granite; and 2 5-inch cubes, one each of light and dark Mohegan granite (56144).

MONNET, PAUL, French consulate, San Francisco, Cal.: 62 plants from California and Nevada (56633: exchange); 6 living specimens of Cactaceae from Arizona (57136).

MONTAGUE, P. D., Gonville & Caius College, Cambridge, England (through Prof. J. Stanley Gardiner): 28 crustaceans from the Monte Bello Islands, Australia (56509: exchange).

MOODY, Dr. PRICE, Bartlett, Ohio: Specimen of 2-headed snake, *Coluber*, from Ohio (55792).

MOORE, BENSON B., Washington, D. C.: 3 paintings in oil—Interior, attributed to Adrian von Ostade, Interior, by L. Fissette, and "Might is Right," by Z. Noterman (56795: loan).

MOORE, CLARENCE B., Philadelphia, Pa.: 2 masses of galena containing a deposit of lead carbonate which was used by the aborigines for paint, obtained from a mound near Boyd's Landing, Hardin County, Tenn. (56604); 5 skeletons and 2 skulls, from along the Tennessee River (56843).

MOORE, Dr. RILEY D., U. S. National Museum: 19 bird skins and 43 eggs, from St. Matthews Island, Bering Sea (55897); 631 ethnological specimens from Alaska (55962). Purchase.

MORGAN, Hon. EDWARD M., Postmaster, New York City (through Hon. Frank H. Hitchcock): A silver cup—the first article sent by parcel post in the United States (55726).

MOSIER, CHARLES A., Little River, Fla.: 70 Diptera, mainly from Florida, and 19 Hymenoptera (56505; 56540); 17 Hymenoptera parasites from Buena Vista, Fla., bred from katydid eggs (56716).

- MUNDER, NORMAN T. A., AND Co., Baltimore, Md.: 14 photomechanical relief prints (56132).
- MUNICH, GERMANY. ZOOLOGISCHE SAMMLUNG UND ZOOLOGISCHES INSTITUT: 22 recent Japanese crinoids (57049: exchange).
- MUNROE, Miss HELEN, Smithsonian Institution: An example of photomechanical intaglio printing—night scene, after a drawing (56133).
- MURPHY, THOMAS, U. S. National Museum: Stone ball (pseudo-antiquity), found by the donor in a clay bank, Washington, D. C. (56301).
- MURRAY, CHARLES, Washington, D. C.: Tortoise (56048).
- MUSEO NACIONAL. (See under San José, Costa Rica.)
- MUSEUM OF COMPARATIVE ZOOLOGY. (See under Cambridge, Mass.)
- MUSEUM, GEOLOGISCHES INSTITUT DER UNIVERSITÄT Breslau. (See under Breslau, Germany.)
- MUSÉUM D'HISTOIRE NATURELLE. (See under Paris, France.)
- MUSEUM OF VERTEBRATE ZOOLOGY, UNIVERSITY OF CALIFORNIA. (See under California, University of.)
- MUSEUM FÜR VÖLKERKUNDE. (See under Leipzig, Germany.)
- MUSEUM OF ZOOLOGY, UNIVERSITY OF MICHIGAN. (See under Michigan, University of.)
- MYERS, P. R., U. S. National Museum: 32 insects (55652).
- NADAY & FLEISCHER, New York City: 5 2-yard lengths of linens (56930).
- NATIONAL ACADEMY OF SCIENCES, Washington, D. C. (through Dr. Whitman Cross, treasurer): Bronze replica of the James Craig Watson medal, awarded to Sir David Gill for researches in astronomy, 1900; bronze replica of the Alexander Agassiz medal, awarded to scientific men in any part of the world for original contributions to the science of oceanography; bronze replica of the Henry Draper medal, awarded to Henri Deslandres for discoveries in astronomical physics (56201: deposit).
- NATIONAL ASSOCIATION OF PORTRAIT PAINTERS (through Mr. Earl Stetson Crawford, secretary, New York City): 25 paintings in oil, embodying examples by John W. Alexander, Cecilia Beaux, Frank W. Benson, Adolphe Borie, William M. Chase, Brenetta Herrman Crawford, Earl Stetson Crawford, Howard Gardiner Cushing, Lydia Field Emmet, Charles Dana Gibson, Victor D. Hecht, Robert Henri, Henry Salem Hubbell, John C. Johansen, DeWitt M. Lockman, George Luks, Ellen Emmet Rand, S. Montgomery Roosevelt, William T. Smedley and Irving R. Wiles (56694: loan for special exhibition).
- NATIONAL CASH REGISTER COMPANY, Dayton, Ohio: 6 examples of newspapers printed on the Merten's rapid rotary intaglio press (55999); 5 specimens of rapid rotary intaglio, consisting of 3 miniature copies of The National Cash Register Weekly and 2 copies of insert for The Arts and Crafts Magazine (56344).
- NATIONAL SOCIETY OF THE COLONIAL DAMES OF AMERICA, Washington, D. C.: Wedding certificate of Jonathan Copeland and Mary Nicholas, November 3, 1756, and silver table-spoon, wedding gift to Lydia Allen, April 22, 1773, lent to the Society by Mrs. Silas Casey; and 2 silver spoons, lent to the Society by Miss Sophie Pearce Casey (56718); miniature of Catherine, Duchess of Gordon, lent to the Society by Miss Julie G. McAllister; piece of brocade from the wedding gown worn by Margaret Colton of Springfield, Mass., on her marriage to Joseph Frost of Newcastle, N. H., October 20, 1744, lent to the Society by her great-great-granddaughter, Mrs. Clarence Winthrop Bowen (56729); 42 relics from the Colonial Dames of Massachusetts (56794); saucer, part of a set pre-

NATIONAL SOCIETY OF THE COLONIAL
DAMES OF AMERICA—Continued.

sent by the State of Virginia to Thomas Ap Catesby Jones, plate which belonged to Chief Justice Marshall, and a pitcher which belonged to James Craik, surgeon in Braddock's Army, lent to the Society by Miss Rose M. MacDonald (56802); portrait (painted on ivory) of the Right Rev. Bishop White, first bishop of Pennsylvania, lent to the Society by Mrs. C. Albert Hill; silver strainer of 1763, lent to the Society by Mrs. Ernest H. Pringle; knife, fork, 2 silver bottle corks, 2 silver bottle labels and a silver mug, lent to the Society by Mrs. Maurice Augustus Moore (56897); 4 historical documents issued in Massachusetts during the colonial period, and dated, respectively, 1738, 1744, 1784 and 1771, lent to the Society by Miss Elizabeth Perkins (57031). Loan.

NATURHISTORISKA RIKSMUSEUM, BOTANISKA AFDELNING. (See under Stockholm, Sweden.)

NELSON, Prof. AVEN, Laramie, Wyo.: 2 living specimens of Cactaceae from Wyoming (56872; 56990).

NELSON, N. C., Imperial, Cal.: Moth, *Apantesis proxima* (56114).

NEVADA, UNIVERSITY OF, Reno, Nev. (through Prof. P. B. Kennedy): 3 living specimens of *Opuntia pulchella* and 13 specimens of Chenopodiaceae, from Nevada (56184; 56224). Exchange.

NEW YORK BOTANICAL GARDEN, Bronx Park, New York City: 40 living specimens and 65 herbarium specimens of Cactaceae, chiefly from the West Indies; also 9 photographs of Cactaceae (55650; 55693; 55800; 56307; 56440; 56665; 56734; 56824; 56873); 1,180 plants from the Virgin Islands and Curaçao (55880); 1,669 miscellaneous plants chiefly from the West Indies (55693; 55945; 56363; 56486; 56658; 56775; 56873); 562 plants, chiefly from Africa, from the Otto Kuntze Herbarium (56050). Exchange.

NICHOLAS, Dr. FRANCIS C., New York City: 14 specimens of ore from the Copete Mine, near Carbo, Sonora, Mexico, illustrating the development of iron ores from pyrite (56113).

NIELSEN, Dr. T. C., Copenhagen, Denmark (through Dr. Adam Giede Böving): Specimens of *Agromyza carbonaria* and their work (56330).

NIGHTINGALE, Rev. ROBERT C., Beechamwell Rectory, Swaffham, England: A pierced brass kitchen spoon which was in use between the years 1760–1800 (56521).

NISBET, W. W., St. Louis, Mo.: 2 bronze medals, sent from France to be sold as souvenirs at the Louisiana Purchase Exposition, St. Louis, 1904 (56906).

NOE, WILLIAM, Langdon, D. C.: Specimen of young cardinal, *Cardinalis cardinalis*, with four legs (56864).

NORRIS, J. PARKER, jr., Philadelphia, Pa.: Egg of *Lagopus rupestris reinhardi* from Labrador (56817).

OLDBOYD, Mrs. T. S., Long Beach, Cal.: About 500 specimens of land and marine shells from California (56811).

OLMSTED, Miss HELEN A., U. S. National Museum: Specimen of yellow-bellied woodpecker, *Sphyrapicus varius* (55985); 4 recent United States coins (56430).

ORCUTT, CHARLES R., National City, Cal.: Invertebrates and shells from various localities, chiefly on the western coast of Mexico (55989; 56013).

ORPEN, Mrs. ADELA E., Enniscorthy, Ireland: 51 flower studies in water color, painted by the late Miss Adella Gates (56710).

OSGOOD, Miss SUSAN E., Salem, Mass. (through Miss L. L. Lander): Dress, kid slippers, fan and pearl beads, which were worn by Mrs. Abigail Adams, wife of President John Adams (1797–1801) (57082).

- OVER, C. M., Goodsprings, Nev.: A sample of cuprodesclowitzite (55911).
- OVERMAN, C. L., U. S. Naval Hospital, Las Animas, Colo.: 2 butterflies (56491).
- OWEN, Maj. W. O., U. S. Army (retired), Washington, D. C.: 4 specimens of *Unio complanatus* from a small creek emptying into the Potomac River near Lock No. 7, a short distance from Cabin John (56073).
- PACIFIC GEM COMPANY, Los Angeles, Cal.: 6 specimens of labradorite, "goldstone," 3 diamond cut and 3 cabochon cut (56536: purchase); samples of labradorite, "goldstone," uncut (56605).
- PACIFIC MILLS, Lawrence, Mass. (through Lawrence and Company, Boston, Mass.): Samples of woolen goods (55777).
- PALERMO, ITALY, ROYAL BOTANICAL GARDEN: Living specimen of *Borziacactus* (57134: exchange).
- PALMER, WILLIAM, U. S. National Museum: 9 specimens of fishes, including 2 each of *Micropogon undulatus*, *Opsanus tau*, *Orthopristis chrysopterus* and *Spheroides maculatus* and 1 specimen of *Menticirrhus saxatilis*, all from Chesapeake Bay (55832; 56454); red bat, *Nycteris borealis*, and 2 opossums, *Didelphis virginiana* (56334); 23 birds from Virginia, District of Columbia and the vicinity of Washington (56355; 56920; 57009); portions of skulls, jaws and vertebrae of cetaceans from the Miocene marls near Chesapeake Beach, Md. (56835).
- PARIS, FRANCE, MUSÉUM D'HISTOIRE NATURELLE (through Prof. H. Lecomte, directeur de l'Herbier et Laboratoire Botanique): 1,110 plants and 37 copies of plant drawings (56675: exchange).
- PARISH, S. B., San Bernardino, Cal.: 1 herbarium specimen each of *Sherardia arvensis* and *Atriplex saltonensis* and 3 living specimens of *Stylophyllum*, from California (55787; 55939; 56732); 31 living specimens of succulent plants, consisting of 19 Cactaceae, 11 Crassulaceae and 1 *Agave*, from California and Coronados Island, Mexico (56123; 56262; 56787).
- PARISH, S. B.—Continued.
- PARKER, R. N., Forest Research Institute, Dehra Dun, United Provinces, India: Living specimen of *Opuntia* (56786).
- PARKHILL MANUFACTURING COMPANY, Fitchburg, Mass.: 85 2½-yard lengths of Toile du Nord gingham (56887).
- PARROTT, P. J., New York Agricultural Experiment Station, Geneva, N. Y.: 2 specimens of *Oecanthus pini* and specimens of pitch pine showing egg punctures, in exchange; and 8 specimens of *Oecanthus* as a gift (56484).
- PASSENSO, PANAY, Jr., Washington, D. C.: Herring gull, *Larus argentatus*, in immature plumage, from the District of Columbia (56597).
- PATCHING, FRED, Revillagigedo Island, Alaska (through Bureau of Fisheries): Specimen of salamander, *Desmognathus torosus* from Alaska (56618).
- PAYN, ELIAS J., Olympia, Wash.: Specimen of *Pecten caurinus* with large barnacles (56223); 5 specimens of *Panope generosa* from Olympia; shells of *Saxidomus* and *Ostrea* (57042).
- PEABODY MUSEUM OF NATURAL HISTORY, YALE UNIVERSITY, New Haven, Conn.: A cast of the sacral cavity of *Stegosaurus* (56495: exchange); 150 type specimens of Silurian bryozoans and ostracods from the island of Anticosti (56765).
- PEARSON, JOHN. (See under Charles Brown.)
- PEARY, Rear Admiral ROBERT E., U. S. Navy (retired), Washington, D. C.: 4 gold medals presented to Rear Admiral Peary during his recent European trip, in recognition of his Arctic explorations and his discovery of the North Pole (56370: loan).

PELGRAM & MEYER, Paterson, N. J.: 4 2-yard lengths of "ratine bayadere" ribbon (56929).

PENA, Madame CARLOS MARIA DE, Uruguayan Legation, Washington, D. C.: 6 fans (56522: loan).

PENNSYLVANIA, UNIVERSITY OF, DEPARTMENT OF BOTANY, Philadelphia, Pa.: 104 specimens of Scrophulariaceae collected in the southeastern part of the United States by Mr. F. W. Pennell (55753: exchange).

PERTH, WESTERN AUSTRALIA, WESTERN AUSTRALIAN MUSEUM AND ART GALLERY: 16 specimens of recent crinoids collected by the Australian fisheries investigating steamer *Endeavour* (56958).

PHILIPPINE ISLANDS, GOVERNMENT OF THE, Manila, P. I.:

Executive Bureau: 12 postage stamps of the Philippine Islands, consisting of new color on old watermark paper, 26 centavos; and on new watermark paper, 2, 6, 8, 10, 12, 16, 20, 26, 30 centavos, and 1 and 2 pesos—received through the Bureau of Insular Affairs, War Department (56715).

Bureau of Education: Specimens of 5 grades of knotted abaca and implements for spinning and reeling cotton and abaca—received through the Bureau of Insular Affairs, War Department (57074: exchange).

Bureau of Science: 481 plants, chiefly cryptogams, from the Philippine Islands (56049); 953 plants chiefly from Guam and Indo-China (56488). Exchange.

University of the Philippines: Miscellaneous invertebrates, including mollusks (56397: exchange).

PHILLIPS, RAY, Broadwater, Va.: A fossil crab (56876: purchase).

PIERCE, HENRY HAVELOCK, Boston, Mass. (through Mr. George W. Harris, Washington, D. C.): Photographic portrait of a man (56590).

PITTIER, Prof. H., Bureau of Plant Industry, Washington, D. C.: 875 plants, including living specimens of

PITTIER, Prof. H.—Continued.

Cactaceae; 4 bats, about 20 insects, 1 crab and 2 snakes, all from Venezuela (55780; 55784; 55806; 55875; 55963); 31 plants, including 12 from the Vargas Herbarium and 16 from the Ernst Herbarium, Caracas (55970); fruit head of ivory nut palm, *Phytelephas*, from Panama (56830: collected for the Museum); 20 living specimens of Cactaceae, *Hylocereus* sp., and 2 bats, *Micronycteris*, from Panama (56892; 56960).

PITTSBURGH COAL COMPANY, Pittsburgh, Pa.: Coal mine model, received at the close of the Louisiana Purchase Exposition, 1904 (56153).

PLIMPTON, R. S., Salida, Colo.: 5 living specimens of *Opuntia* and *Echinocereus* from Chaffee County, Colo. (55695).

PONEMAH MILLS, Taftville, Conn. (through Clarence Whitman & Co., Inc., New York City): 5 specimens of cotton and silk and cotton crêpe dress goods (57137).

PORTER, T. J., & SONS, Philadelphia, Pa.: A series of small specimens of raw flax and linen yarns, and 13 samples of fine English spun cotton yarn wound on small cones (56526).

PORTLAND SOCIETY OF NATURAL HISTORY, Portland, Me.: 7 specimens of *Solemya borealis* from 20 feet of water in Portland Harbor (56451).

POST OFFICE DEPARTMENT: 28 sets of specimen stamps, etc., 10 of which are in triplicate and 6 in duplicate (approximately 8,529 specimens), received from the International Bureau of the Universal Postal Union, Berne, Switzerland (55665; 55733; 55815; 55885; 55920; 56019; 56098; 56241; 56303; 56463; 56502; 56533; 56612; 56712; 56793; 56841; 56964); 23 United States postage stamps, consisting of 5 postal savings official, 12 parcel-post, 5 parcel-post due and 1 Panama-Pacific commemorative, completing the postal savings, parcel-post, and Panama-Pacific series (56097); a complete specimen set

POST OFFICE DEPARTMENT—Continued.

- (27) of the new postage and postage due stamps issued by the Chinese Postal Administration to replace the former surcharged issues (56200); 237 specimens, consisting of 3 copies each of various denominations of current United States postage stamps, postage due stamps, stamped envelopes and newspaper wrappers (56651; 57085).
- PRADO, ERNESTO NUÑEZ DEL, La Paz, Bolivia (through Dr. Albert Hale, Washington, D. C.): Golden-headed train-bearer, *Pharomachrus auriceps*, a bird of the trogon family, from Bolivia (56595); a sample of medicine and a bird (57014).
- PRESCOTT & WAYWELL, Paterson, N. J.: 6 mounted photographs showing preparation of warps for silk loom (56316).
- PROKES, JAMES, Bridgeport, Ohio: A specimen of concretionary marcasite (55892).
- PUGSLEY, EDWIN, New Haven, Conn.: Fogerty breech-loading, magazine rifle (56859).
- QUEENSLAND MUSEUM. (See under Brisbane, Queensland.)
- QUEHL, Dr. L., Halle (Saale), Germany: 10 living specimens of Cactaceae (55667; 56647). Exchange.
- QUETTA, BALUCHISTAN, INDIA, McMACHON MUSEUM (through Hon. Henry D. Baker, American consul): 5 specimens of minerals and ores from Baluchistan (56034).
- REAGAN, A. B., Nett Lake, Minn.: Fresh-water shells, representing 3 species, from Nett Lake (55770).
- REESE, Prof. ALBERT M., West Virginia University, Morgantown, W. Va.: Mammals, reptiles, fishes, insects, mollusks and other invertebrates, from the Philippine Islands (56023); 60 small mammals in alcohol and a collection of reptiles, from Luzon, P. I. (56508). Collected for the Museum.
- REID, Mrs. BRUCE, Port Arthur, Tex. (through Bureau of Biological Survey, Washington, D. C.): 5 eggs and 4 nests of the long-billed marsh wren, *Telmatorhytes palustris pleisus*?, from Texas (55799).
- REMER, WILLIAM A., Deadwood, S. Dak. (through Mr. Frank L. Hess, U. S. Geological Survey): A specimen of autunite (56577).
- REMINGTON ARMS-UNION METALLIC CARTRIDGE COMPANY, Illon, N. Y.: 2 sporting rifles (56721).
- RENFREW MANUFACTURING COMPANY, Adams, Mass.: 10 2-yard lengths of damasks, madras, seersuckers, Devonshire cloth and Jap crêpe (56866).
- REYNOLDS, J. CLAYTON, Utica, Ky.: Roughed-out blade of diabase found near Utica by the donor (56295).
- RICE, ARTHUR P., Mérida, Yucatan, Mexico: Ceremonial bell excavated at Chichen Itza, Yucatan (55664); 6 photographs, ruin views of the cities of Chichen Itza and Uxmal, Yucatan; also an interesting shell limestone of Tertiary age from near Mérida (56781).
- RICHARDS, A. G., Albany, Wyo.: Specimens of allanite and gangue from near Albany (55855; 56029).
- RICHARDS, Dr. T. W., U. S. Navy, Washington, D. C.: 2 bird skins from Samoa (56056).
- RIDGEWAY MICA COMPANY, Pittsburgh, Pa.: 6 specimens of mica (56624).
- RIDGWAY, CHARLES L., Boston, Mass.: Model of the Ridgway revolving battery (56243).
- RIDGWAY, ROBERT, U. S. National Museum: 27 birds and 3 eggs from Olney, Ill. (57007).
- RIDGWAY, Dr. T. E., Washington, D. C.: Photograph of a group of engraved portraits of early English historical personages (56437).
- RILEY, J. H., U. S. National Museum: Specimen of *Lamprellis radiatus*, 7 squirrels, *Sciurus hudsonicus loquax*, a chipmunk, *Tamias striatus striatus*, and 6 birds, including an in-

RILEY, J. H.—Continued.

diago bunting, *Passerina cyanea*, and a sharp-shinned hawk, *Accipiter velox*, all from Virginia (56105; 56277; 56290; 56356; 56921); 25 bird skins (57008).

ROBERTS, Dr. H. W., Ottumwa, Iowa: Beetle, the "eyed elater" (57016).

ROBERTSON, GEORGE, University of Redlands, Redlands, Cal.: A slab containing specimens of a fossil brachiopod, *Rhynchonella whitneyi*, from the Lower Cretaceous, Corona, Cal. (55715).

ROBERTSON, W. R. B., University of Kansas, Lawrence, Kans.: 2 specimens of Orthoptera representing the species *Jamaicana subguttata* (56093).

ROBINSON, Col. WIRT, U. S. Army, West Point, N. Y.: Collection of named beetles, mainly from Denmark (56816).

ROBINSON, Miss W. J., Poughkeepsie, N. Y.: Fern, *Schizostegia lydgatei*, from Hawaii (55877).

ROCHESTER BUTTON COMPANY, Rochester, N. Y.: 10 boxes of material illustrating the manufacture of buttons from vegetable ivory (56747).

ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, New York City: 62 photomicrographs showing the use of photography in laboratory research work at the Rockefeller Institute (56211).

ROEDER, GEORGE M., Swetman, Va.: 100 specimens, representing 13 species, of land shells from Virginia and Maryland (56468).

ROIG, Dr. MARIO SÁNCHEZ, Havana, Cuba: 9 crustaceans from Cuba (55822); 4 specimens of isopods representing 3 species (56108).

ROSE, Dr. J. N., Carnegie Institution of Washington, Washington, D. C.: Snake from Texas (56107).

ROSENBERG, W. F. H., London, England: 15 bird skins from Africa (55731: purchase).

ROSS RIFLE COMPANY, Quebec, Canada: Ross magazine sporting rifle, model M-10 (56643).

ROTARY PHOTOGRAPHY COMPANY, INC., Passaic, N. J.: 77 examples of rotary intaglio printing (56686).

ROTHSCHILD BROTHERS & COMPANY, New York City: Series of specimens illustrating the manufacture of pearl and vegetable ivory buttons (57044).

ROUSSELET, CHARLES F., London, England: 26 microscopic slides of Rotifera (9th and 10th installments) (56257; 56925). Purchase.

ROWELL, JOSEPH C. N., Neppel, Wash.: 2 fishes—lake chub, Columbia chub, or white chub, *Rutilus bicolor* (56654).

ROYAL BOTANIC GARDEN, Sibpur. (See under Calcutta, India.)

ROYAL BOTANICAL GARDEN. (See under Palermo, Italy.)

ROYAL ONTARIO MUSEUM OF MINERALOGY. (See under Toronto, Canada.)

RULLMAN & WILSON. (See under Beaver Dam Marble Co.)

RUNYON, E. G., Washington, D. C.: 3 leeches from Macomb County, Mich. (56006).

RUSSELL, W. S., Ventura, Cal. (through U. S. Geological Survey): Specimen of massive crystalline coemanite from the mine of the Russell Borate Mining Company (56249).

RUTH, Prof. ALBERT, Polytechnic, Tex.: 91 plants from Texas (55975; 56183).

RUTOT, Prof. A., Musée Royal d'Histoire Naturelle de Belgique, Brussels, Belgium: 51 originals and 17 casts of ancient stone implements from various parts of Belgium; also an original neolithic skull from Boussu (Valley of the Haine), Belgium (55867); 74 stone implements from Belgium, consisting of 28 Chelleian, 17 Acheulian and 29 Mousterian specimens (56614). Exchange.

- RUXTON, PHILIP, INC., St. Paul, Minn.: 56 specimens used in the manufacture of printing ink, and 12 photographs (57095).
- SAADI, JOHN E., Allentown, Pa.: 7 twin crystals of staurolite from Henry County, Va. (56857).
- SAALBURG, CHARLES W., New York City: 22 specimens of rotary and machine - printed photogravures (56384); 6 magazines containing examples of rapid rotary intaglio work: Country Life in America, November, 1906; Printing Art, June, 1908; and The Century Magazine for December, 1906, June, September, and December, 1907 (57080).
- SACHETT, JOSEPH, U. S. Naval Hospital, Brooklyn, N. Y.: 5 larvæ of *Automeris* sp. (56602).
- SADTLER, DR. SAMUEL P., Philadelphia, Pa. (through U. S. Geological Survey): A crystal of sulphohalite (57050).
- ST. PETERSBURG, RUSSIA, KAISERLICHER BOTANISCHER GARTEN PETER DES GROSSEN: 41 plants from Brazil (56572); 2 specimens of *Lycopodium* (56888). Exchange.
- SAN JOSÉ, COSTA RICA, MUSEO NACIONAL (through Dr. Anastasio Alfaro): Rocks and Pliocene fossils from Costa Rica (56808); 8 living specimens of *Rhipsalis* (56868: exchange).
- SANTWAY, DR. FREDERICK L., Theresa, N. Y.: A minnow, *Notropis atherinoides* (55738).
- SARGENT, ARTHUR H., Kansas City, Mo.: A modern terra cotta oriental pipe (56296).
- SARGENT, Prof. C. S., Jamaica Plain, Mass.: 1,580 plants collected in China by Mr. E. H. Wilson (56305: purchase).
- SATTERLEE, Mrs. JANE L., Washington, D. C.: Dress worn by Mrs. Satterlee, wife of Henry Y. Satterlee, first Bishop of Washington (57000: loan).
- SAVAGE ARMS COMPANY, Utica, N. Y.: Magazine sporting rifle (56714).
- SCHLEGEL, Miss MATHILDE, East Aurora, N. Y.: Specimen of wood mouse, *Peromyscus leucopus*, from East Aurora (56089).
- SCHLÜTER, WILHELM, Halle a. Saale, Germany: 18 mammal specimens (55851); skin and skull of *Genetta*, *Cricetomys* and *Cricetus* (56242). Purchase.
- SCHMID, EDWARD S., Washington, D. C.: Blue and yellow macaw, *Ara ararauna*, in the flesh; also a skeleton of the same species (55683; 56957); parrot, *Amazona auropalliata*, and a species of *Amazona* (55884; 56289); Cuban parrot, *Amazona leucocephala* (55896); Tovi parakeet, *Brotogeris jugularis*, Russian spermophile, and a white-armed cotton-head monkey, *Sentiocebus meticulous* (55905); Angora rabbit, *Oryctolagus* (56008); red-shouldered hawk, *Buteo lineatus* (56652); guinea pig, *Cavia* (57091).
- SCHMITT, Mr. (See under C. Bles.)
- SCHROEDL, GUIDO, Baltimore, Md.: Carved and painted wooden image from Kauleng Island, Bismarck Archipelago, and a ceremonial carved adz from Hervey Island (56909); bows, arrows and spears from Melanesia (56988). Loan.
- SCHÜCK, Dr. V., Prague, Bohemia: 3 invertebrate fossils, 2 mammals and a snake, from northern Zululand, South Africa (56339; 57058); 8 snakes, 21 entire mammals in formalin, 4 heads of mammals in formalin and 16 skulls of mammals, from the Ubombo district, northern Zululand (56351). Collected for the Museum.
- SCIENCE AND AGRICULTURE DEPARTMENT. (See under Georgetown, British Guiana.)
- SEAL, WILLIAM P., Delair, N. J.: 12 eggs of pine snake (55669).
- SEAMON ASSAY COMPANY, El Paso, Tex.: 2 specimens of copper ore (56881: purchase).

SEBASTIAN, RICHARD, U. S. National Museum: Abnormal egg of a domestic fowl (55907); snake from Rock Creek, D. C. (57011).

SENCKENBERGISCHE NATURHISTORISCHES MUSEUM. (See under Frankfort (on-the-Main), Germany.)

SETON, ERNEST THOMPSON, Greenwich, Conn.: 20 small mammals from England and 4 from Connecticut (56738); a Mexican bridle of the old-fashioned type, made of finely cut and plaited rawhide (56757). Exchange.

SHANNON, R. C., Bureau of Entomology, Washington, D. C.: Approximately 1,668 insects, mostly Diptera, from Virginia, Maryland and the vicinity of Washington (56128); about 315 bred Diptera, the larvæ of which were chiefly collected around Washington; 12 vials containing fleas and flea larvæ, pupæ and eggs; 70 vials of dipterous larvæ; 35 vials of miscellaneous alcoholic material, chiefly from the vicinity of Washington (56524).

SHANTZ, H. L., U. S. Department of Agriculture, Washington, D. C.: Specimen of *Battaria griffithsii* from Utah (56160).

SHAW, S. ALBERT, Hampton, N. H.: 71 specimens of Lepidoptera (56603).

SHELDON, F. B., Byron, Mich.: Specimens of tuckahoe, or Indian bread, *Pachyma cocos*, found three miles west of Ashland, Va. (56313).

SHEPHERD, E. S., Carnegie Institution of Washington, Washington, D. C.: 11 reptiles (56250).

SHERBORN, CHARLES DAVIES, London, England: 90 engraved and etched bookplates by C. W. Sherborn, including one of Her Majesty Queen Mary of England, and a line cut bookplate of Harry Roberts Carson, signed A. H. N., 1911 (55656).

SHERMAN, FREDERIC FAIRCHILD, New York City: Oil painting by Du Bois F. Hasbrouck, entitled "Autumn

SHERMAN, FREDERIC FAIRCHILD—CON. Landscape," presented in memory of Eloise Lee Sherman (55686).

SHERMAN, P. T., New York City: Dress sword, sash, belt, packing case and other articles which belonged to Gen. William T. Sherman (56910: loan).

SHERBIN, THOMAS V., Hampton, England: 12 rabbits, *Lepus timidus scoticus*, from Scotland, and 12 rabbits, *L. europæus occidentalis*, from England (56617: purchased from the Harrison fund).

SHIPPY, N. D., Acton, Cal.: 2 specimens of colemanite from mines of the Sterling Borax Company, near Lang, Cal. (55946).

SHIRLAW, MRS. FLORENCE M., New York City: 3 paintings in oil, "The Inn, Germany," "Study Head—Madam Capri," "Bell Foundry, Germany," and a pastel, "Easter Morning," by Walter Shirlaw; portrait sketch in oil of Walter Shirlaw, by Frank Duveneck (56116).

SHOEMAKER, CLARENCE R., U. S. National Museum: About 100 amphipods and isopods from Chesapeake Beach, Md. (57034).

SHUFELDT, DR. R. W., Washington, D. C.: Skin and photograph of white-armed cotton-head monkey *Seniocebus meticulosus* (56072; 56229); skin and skeleton of a Russian spermophile, *Citellus citellus* (56457); nest and 3 eggs of cardinal, *Cardinalis cardinalis*, from Maryland (56478); young hoatzins, *Opisthocomus cristatus*, skeletal material in alcohol (56560).

SHUFF, B. E., Richardson, Alaska: A sample of gold ore from Alaska (55776).

SIBPUR, INDIA, ROYAL BOTANIC GARDEN. (See under Calcutta.)

SILVESTRI, DR. F., Portici, Italy: 22 specimens of parasitic Hymenoptera representing the species *Muscidi-furæ raptor* (55942).

- SKINNER, A. H., Demopolis, Ala.: Larva of the imperial moth, *Basilonia imperialis* (55773).
- SKINNER, WILLIAM, & SONS, Holyoke, Mass.: 3 2-yard lengths of satin (56703).
- SLATER, MRS. ELSIE McELBOY, El Paso, Tex.: 4 photographs of New Mexican plants (56378).
- SLATER, WILLIAM A., Washington, D. C.: 19 paintings (56986: loan).
- SMART, J. A., U. S. National Museum: Skull of a woodchuck from Fairfax County, Va. (55990):
- SMITH, Prof. FRANK, University of Illinois, Urbana, Ill.: 3 specimens in alcohol and 17 slides, representing 3 species of earthworms (56146); 2 land shells from Guatemala and 2 fresh-water shells from Michigan (56568).
- SMITH, Rev. F. J., Progreso, Yucatan, Mexico: 15 specimens of fossil shells from Yucatan (56620).
- SMITH, Dr. HUGH M., Bureau of Fisheries, Washington, D. C.: A Savage military revolver (56145: loan); about 100 specimens of land and marine shells from Florida (56425).
- SMITH, H. O., Juneau, Alaska (through Bureau of Fisheries, Washington, D. C.): Specimen of *Mytilus californianus* and *Ariolimax columbianus*, from McHenry Inlet, Etolin Island, Alaska (56347).
- SMITH, JAMES, & SON, Astwood Bank, near Redditch, England: Hand sewing-needles showing stages of manufacture, sewing-machine needles, sail, surgeon's, knitting and netting needles, bodkins, hairpins, and fancy cases for holding needles, received from the Centennial Exhibition, Philadelphia, 1876 (56434).
- SMITH, Capt. JOHN DONNELL, Baltimore, Md.: Photograph of the type specimen of *Rubus tiliaceus* (56218); 12 mounted plants from Ecuador and Trinidad (57110).
- SMITH, MILLARD H., Candler, N. C.: Arrowpoints and spearheads with fragments of the same, and a pierced tablet, from the vicinity of Candler (55755).
- SMITH, ROBERT ATWATER, Washington, D. C.: Old grasshopper bicycle with small front wheel (55662).
- SMITH & KAUFMANN, New York City: 7 2-yard lengths of warp-printed and satin-brocaded ribbons (56753).
- SMITHSONIAN INSTITUTION:
Specimens of wire and telegraph appliances, deposited by Mr. J. C. Vail, Morristown, N. J. (55814); diploma as Foreign Associate of the Royal Academy of Sciences, Sweden, dated Stockholm, February 12, 1902, awarded to Dr. S. P. Langley, late Secretary of the Smithsonian Institution (55929); 2 stone mortars found in the Department of Rocha, Uruguay, near Laguna Merim, and 9 small silver tubes, "bombillas," used in drinking maté, representative of rare types found in the River Plate region, South America, collected and presented to the Smithsonian Institution by Dr. Manuel B. Otero, Vice President of Uruguay, through the Department of State (56094); skin and skull of a moose and skin of a deer, collected by Mr. Benjamin S. Walcott and Mr. Sidney S. Walcott in British Columbia (56143); 8 boxes of fossil mollusks and 8 boxes of petrographic specimens and rock chips, collected by Mr. Chester W. Washburne in southern Patagonia; also 2 boxes of Indian relics from various parts of Patagonia, collected by Mr. Washburne (56374); a diploma awarded to the Institution by the Northwest Interstate Fair, Tacoma, Wash., 1894, for its exhibit of Indian and other photographs (56461); about 150 type specimens of Cambrian fossils, listed in Volume 57, Nos. 9 and 13, Smithsonian Miscellaneous Collections, and about 5,000 Middle Cambrian fossils for the re-

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serve collection, from the Burgess shale of British Columbia (56877); a cardboard sheet or "Tableau en mémoire du Colonel Laussedat," containing illustrations of the theory of "Metrophotography," presented to the Institution by Mr. Emile Wenz, of Reims, France (56896); "Good Luck" souvenir received by the Institution from Col. John W. Vrooman, Herkimer, N. Y. (56908); specimen of *Peripatus geayi* collected at La Chorrera, Panama, by Mr. A. Busck (56938); personal relics of Prof. Spencer F. Baird, including instruments used in his investigations, and a damask napkin used by Napoleon at breakfast on the morning he left the island of Elba, received by the Institution as a bequest from Miss Lucy Hunter Baird (57108).

Bureau of American Ethnology: 8 fragments of pottery found in an excavation at Swaffham, England, and presented by Rev. Robert C. Nightingale (55735); a small collection of pottery fragments and 3 small beads, found in a shell-bank near Port Arthur, Tex., and presented to the Bureau by Mrs. Bruce Reid (55756); 150 Cherokee medical plants collected by Mr. James Mooney in North Carolina (55971); parts of 5 skeletons, 3 complete skulls and fragments of 2 infant skulls, from a burial cist in a cave about 20 miles south of Grant, N. Mex. (56134); 31 ethnological objects of the Cherokee and Catawba Indians, collected by Mr. James Mooney (56312); 6 photographs of Aztec antiquities, purchased from Mr. W. W. Blake of Mexico City, Mexico (56609); an arrowpoint found on the North Fork of the Roanoke River, about 3 miles from Blacksburg, Va., by Prof. Otto C. Burkhart and presented by him to the Bureau (56679); a stone phallus from Mesa Verde, Colo., presented to the Bureau by Mr. H. C. Lay, Telluride, Colo. (56719).

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National Museum, collected by members of the staff: Bartsch, Paul: A crayfish and salamanders, from Virginia (55901); lizard from Garden Key, Tortugas (55921); shrew, *Sorex personatus*; cotton-tail rabbit, *Sylvilagus floridanus mallurus*; 3 specimens of white-footed mice, *Peromyscus leucopus noveboracensis*; and 10 specimens of gray squirrel, *Sciurus carolinensis carolinensis* (56401). Bassler, R. S.: About 500 specimens of invertebrate fossils from the Martinsburg shale and associated formations of West Virginia (56020). Boss, Norman H.: A collection of fossil cetacean material, including a nearly complete porpoise skeleton, a skull, several parts of skulls and jaws, and vertebræ, from the Miocene marls near Chesapeake Beach, Md. (56836). Crawford, J. C.: 169 Hymenoptera from Bethesda, Md. (55912; 55923). Gidley, J. W.: Fossil mammals from a cave deposit near Cumberland, Md. (55774; 57040). Hrdlička, Aleš: 75 plants from Peru, including several living Cactaceae (55666). Merrill, George P.: Varietal forms of peat from bog east of Pushaw Lake, Penobscot County, Me. (55736); igneous rocks from Freeport, Me., and an unknown mineral from Sanford, Me. (55861); specimens of *Clupea harengus*, *Scomber scombrus*, and *Rhombus triacanthus*, from a weir at the southern end of the Island of Springs, Sheepscot Bay, Me. (55997); rocks and minerals from a quarry west of Belmont Park, near Leesburg, Va. (56069). Miller, Gerrit S., jr.: A small lot of mammals, reptiles and crabs, from Alabama and Mississippi (56550); 4 plants from Mississippi (56733). Moore, Riley D.: 240 skulls and skeletons of the St. Lawrence Island Eskimo, collected by Dr. Moore under the joint auspices of the Panama-California Exposition and the National Museum (55869); Eskimo and Aleut skulls

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and bones, with associated artifacts (55882); 4 crabs, *Hyas coarctatus*, from St. Lawrence Island, Alaska (55928). Myers, P. R.: 60 specimens of insects (55653). Palmer, William: Jellyfish and other invertebrates from Plum Point, Md. (55969). Stejneger, Leonhard: Mammals, mollusks and plants, from Europe (56238). Wherry, Edgar T.: Rocks and minerals from a quarry west of Belmont Park, near Leesburg, Va. (56069).

National Museum, made in the Anthropological Laboratory: 1 cast each of 4 heads of Eskimos (55752); 1 cast each of a hafted maul and a hafted spade, the originals of which were found associated with the "coppered mummy" on an island off the coast of Chile, South America (55863); 71 casts of prehistoric stone implements and objects (56017); 2 casts each of the Diego de Vargas (1692), Juan de Oñate (1606), and other inscriptions on El Morro, or "Inscription Rock," in the western part of New Mexico, made from paper squeeze matrix taken by Mr. F. W. Hodge at El Morro in 1911 (56130); 2 casts of a 3-pointed stone baton from The Dalles, Oreg., made from original lent by Hon. N. J. Sinnott (56382).

National Museum, made in the Laboratory of Mineral Technology: Coke oven model—non-by-product through type on scale 1:12 (57046); Bennington coke pile model on scale 1:12 (57047); model of gas bench, scale 1:16, after a design made by the Gas Machinery Company, Cleveland, Ohio (57048); by-product coke relief panel (57116).

National Zoological Park: Beaver, *Castor canadensis*; black bear, *Ursus americanus*; hybrid bear, *Ursus kilderi-arctos*; bushbuck, *Tragelaphus gratus* (55723); skins and skulls of 2 pumas, *Felis oregonensis hippolestes* (55840); skull of a moose, *Alces americanus*, and parts of the

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skin (55894); skin and body skeleton of rhea, *Rhea americana*; also skins of long-tailed finch, *Poephila acuticauda*; red-breasted parakeet, *Palæornis fasciatus*; curassow, *Crao globicera*; Mississippi kite, *Ictinia mississippiensis*; snowy heron, *Egretta candidissima*; warbling silverbill, *Aidemosyne cantans*? (55903); 5 specimens of comb lizard, *Ctenosaura*; 2 specimens of comb lizard, *Ctenosaura acanthura*; 5 specimens of banded rattlesnake, *Crotalus horridus*; 1 specimen each of ringed snake, *Chionactis annulatus*; smooth-scaled coluber, *Arizona elegans*; tree boa, *Epicrates angulifer*; alligator, *Alligator mississippiensis*; Patagonian cavy, *Dolichotis patagonica*; fallow deer, *Cervus dama*; guanaco, *Auchenia huanacos* (55953); secretary bird, *Gypogeryon secretarius*; 2 specimens of double yellow-head parrot, *Amazona oratrix*; Brazilian cardinal, *Paroaria cucullata*; Wagler's oriole, *Icterus wagleri*; "zebra dove"; 2 specimens of bleeding-heart pigeon, *Phlogoenas luzonica*; toucan, *Ramphastos* species; Derby flycatcher, *Pitangus derbianus*; banded parakeet, *Palæornis fasciatus*; 2 specimens of sulphur-crested cockatoo, *Cacatua galerita*; white ibis, *Guara alba*; European flamingo, *Phaenicopterus roseus*; 2 specimens of ruddy duck, *Erismaura jamaicensis*; green jay, *Xanthoura luzuosa*; red-headed duck, *Marila americana*; European crane, *Grus cinerea*; Carolina parakeet, *Conuropsis carolinensis* (56071); skin and 2 skulls of mule deer, *Odocoileus hemionus*; skin and skeleton of Australian dog, *Canis dingo*; skin and skeleton of raccoon, *Procyon*; skull of swamp deer, *Cervus duvaucelli* (56075); 3-banded Durukull monkey, *Aotus trivirgatus* (56250); condor, *Sarcoramphus gryphus*; red-breasted parakeet, *Palæornis fasciatus*; keel-billed toucan, *Ramphastos brevicari-*

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natus (56333); Carolina parakeet, *Conuropsis carolinensis*; Swainson's hawk, *Buteo swainsoni* (56392); otter, *Lutra canadensis*; lion, *Felis leo sabakiensis*; chamois, *Rupicapra tragus*; spiny ant-eater, *Echidna aculeata*; ocelot, *Felis pardalis* (56393); crested screamer, *Chauna torquata*; sarus crane, *Antigone collaris*; bearded vulture, *Gypatus barbatus* (56951); fallow deer, *Cervus dama*; baboon, *Papio*; red-fronted gazelle, *Gazella ruffronds*; otter, *Lutra canadensis*; lion, *Felis leo*; gnu, *Connochates*; ring-tail lemur, *Lemur catta*; axis deer, *Axis axis*; Panama squirrel, *Sciurus adolphet dorsalis*; African water buffalo, *Syncerus caffer radcliffi*; American bison, *Bison bison* (56959); Mexican curassow, *Crax globicera* (56966); skeleton of tiger, *Felis tigris* (57015); specimen each of Cuban boa and gopher tortoise and 2 specimens of gila monster (57033; 57118); alcoholic specimen of a young white pelican, *Pelecanus erythrorhynchus* (57052).

SNELL, H. V., Globe, Ariz.: Samples of asbestiform serpentine from near Globe (56943).

SNIFFEN, Gen. C. C., U. S. Army (retired), Washington, D. C.: Photograph of a garden corner taken on a winter night (56668).

SNYDER, Dr. J. O., Leland Stanford Junior University, Stanford University, Cal.: 2 stone arrowpoints, supposed to be of Ainu origin, from Aomori, Hokkaido, Japan (55687); 64 reptiles and 16 fishes, collected in California (56328).

SOLDANSKI, HANS, Berlin, Germany: 50 specimens of Coleoptera from Germany (56015); 73 specimens of Orthoptera (56414).

SOUTH DAKOTA, UNIVERSITY OF, UNIVERSITY MUSEUM, Vermillion, S. Dak.: 130 plants from South Dakota (56530).

SOUTHERN GYPSUM COMPANY, North Holston, Va. (through Mr. George W. Stose, Washington, D. C.): A large specimen of gypsum from Virginia (57068).

SOUTHERN INDUSTRIAL EDUCATIONAL ASSOCIATION, Washington, D. C. (through Mrs. A. S. Stone): Baskets and hand-woven textiles, made by Kentucky, North Carolina and Virginia mountaineers (56970: purchase).

SOUTHWEST MUSEUM, Los Angeles, Cal.: 15 bird eggs from the western part of the United States, India and Australia (56025).

SOWERBY, ARTHUR DEC., Tientsin, China: 121 mammals—119 from Manchuria, 1 from China and 1 from Mongolia (56477: collected for the Museum).

SOWERBY, G. B., Kew, near London, England: Specimen of *Protothaca philippinarum* from Japan (56284).

SPANGLER, Mrs. T. F., Zanesville, Ohio (through Mr. W. V. Cox, Washington, D. C.): 29 photographs of ruins, etc., in the southwestern part of the United States (56917).

SPEELMAN, F. S., Pueblo, Colo.: Flint arrowhead found near Taos, N. Mex. (56898).

SPENCE, FRANCIS J., Adelaide, Australia (through Mr. Frank L. Hess, U. S. Geological Survey): A specimen of carnotite on davidite (56638).

SPRINGER, E. L., Smithsonian Institution: 9 stereotype matrices (57099).

SPRINGFIELD, MASS., MUNICIPAL BUILDING COMMISSION (through Mr. George Dwight Pratt, chairman): 2 medals, 1 in bronze and 1 in silver, commemorating the dedication of the Springfield Municipal Group of civic buildings, 1913 (56416).

SPRINKEL, J. W., Brightwood, Va.: Larva of hickory horned devil, *Citheronia regalis* (55837).

- STANDARD UNDERGROUND CABLE COMPANY**, Pittsburgh, Pa.: 13 specimens of copper wire and cable, received at the close of the Louisiana Purchase Exposition, 1904 (56148).
- STANDLEY, PAUL C.**, U. S. National Museum: 15 plants from Maryland and Virginia (55965); 25 plants from Ulster County, N. Y. (56940).
- STANDLEY, PAUL C.**, and **H. C. BOLLMAN**, Smithsonian Institution: 740 plants from Buncombe and McDowell counties, N. C.; also a bat, 3 snakes, amphibians, snails and shells, myriapods and crayfish (55876).
- STANTON, Dr. A. T.**, Institute for Medical Research, Kuala Lumpur, Federated Malay States: 40 mosquitoes from the Federated Malay States (56764).
- STAR RIBBON MANUFACTURING COMPANY**, New York City: A sample of ribbon fabric showing one end with cut ribbons (56264).
- STARK, JAMES H.**, Boston, Mass.: Specimen of volcanic rock from Bermuda (56778).
- STATE, DEPARTMENT OF:**
Alaska Boundary Survey: 20 plants collected in Alaska by Mr. D. W. Eaton (56051).
- STATZ, B. A.**, Albuquerque, N. Mex.: Samples of vanadium ore from Lucky Bill Mine, Bayard, N. Mex. (56543).
- STEARNS, Commander C. D.**, U. S. Navy, Governor, American Samoa, Tutuila, Samoa: Large specimen of an alcyonarian coral (56852); 55 specimens of ferns from Samoa (56984).
- STEEL, THOMAS**, Sydney, New South Wales: 19 specimens of land planarians and 9 specimens of onychophores (57119: exchange).
- STEELE, E. S.**, U. S. National Museum: 663 plants collected in Virginia and Maryland (56528).
- STERN AND POHLY**, New York City: 2 2-yard lengths of plisse epingle, 1 2-yard length of silk faille, 1 2-yard length of taffeta, 1 1-yard length of moire antique (57064).
- STETSON, JOHN B., COMPANY**, Philadelphia, Pa.: A series of specimens and photographs illustrating the manufacture of fur felt hats (57066).
- STEVENS, Dr. WILLIAM L.**, Centerville, Va.: Specimen of oil beetle, *Meloe* sp. (56504).
- STEVENSON, J. MCALLESTER, jr.**, Sweetwater, Tex.: Samoan war club (55852: loan).
- STEWART SILK COMPANY**, New York City: 6 2-yard lengths of crêpe de chine, crêpe faille and Chinese crêpe (56748).
- STIBBENS, Dr. F. H.**, U. S. Navy, U. S. S. *Annapolis* (through Dr. J. C. Thompson, U. S. Navy): An octopus and a caecilian, from Honduras (56466).
- STIEGLITZ, ALFRED**, New York City: "The Stieglitz Collection" of 26 framed pictorial photographs (55701: purchase).
- STOCKHOLM, SWEDEN, NATURHISTORISKA RIKSMUSEUM, BOTANISKA AFDELNING** (through Dr. Carl Lindman, director): 175 specimens of grasses collected in Brazil by Dr. P. Dusén (55699); 153 specimens of grasses collected in South America by Dr. E. L. Ekman (56600). Exchange.
- STONE, FRANK W.**, Washington, D. C.: Case containing 59 mounted birds from various parts of the world (56861).
- STOSE, GEORGE W.**, U. S. Geological Survey, Washington, D. C.: A tooth of *Elephas primigenius* from Crown Point, Ind. (56914).
- STRAUSS, J. C.**, St. Louis, Mo. (through Mr. George W. Harris, Washington, D. C.): Photographic portrait of a lady (56584).

- STRETCH, Capt. R. H., Seattle, Wash.: Augite crystals from St. Paul Island, Pribilof group, Bering Sea, received through the U. S. Geological Survey (56246); specimen of chalcedony colored by cinnabar, from Knoxville, Cal., received through Prof. F. W. Clarke, Washington, D. C. (56398).
- STURTEVANT, E. D., Hollywood, Cal.: Living specimen of *Cereus maynardi* and one specimen of *Echinopsis* (56996: exchange).
- SUMMERSON, C. T., New York City: 2 skulls of Dall's sheep, *Ovis dalli kenaiensis*, and skull of a moose, *Alces gigas*, from Kenai Peninsula, Alaska (56228); skulls and head skins of 2 caribou, *Rangifer*, from Riddell River, Yukon (56350); skull of a wolf, *Canis occidentalis*, head of a moose, *Alces americanus*, and head of a caribou, *Rangifer stonet*, from Yukon Territory (56523; 56580).
- SURR, GORDON, San Bernardino, Cal.: Specimen of lapis lazuli from San Bernardino County, Cal. (56038); 9 specimens of minerals from California (56594); 2 specimens of vesuvianite and 1 of brucite in limestone, from Crestmore, Cal. (56819; 56849); 11 concretions from Lehy, Wash. (56660).
- SUSQUEHANNA SILK MILLS, New York City: A 2-yard sample of dress goods "fancy matelasse" (56645).
- SWEET, Mrs. H. E., and Miss M. D. SWEET, Providence, R. I. (through Henry L. Scott & Co.): Spinning wheel, yarn reel and umbrella reel (55743).
- SWETT, LOUIS W., Boston, Mass.: 2 geometrids (56237).
- SWEZEY, OTTO H., Honolulu, Hawaii: 150 reared Hawaiian Microlepidoptera (56727).
- SYDNEY, NEW SOUTH WALES, AUSTRALIA, BOTANIC GARDENS: 200 plants from Australia and the Pacific Islands (55720; 56557: exchange).
- TALBOT, C. H., Chippenham, England: Photographic journal entitled "Pencil of Nature," and 32 calotypes (56462).
- TAYLOR-FRIEDSAM COMPANY, New York City: 12 2-yard lengths of satin, taffeta, grosgrain and warp-printed ribbons (56746).
- TAYLOR, W. S., Jensen, Utah: 12 specimens of Carboniferous invertebrate fossils from Utah (55930).
- TEELE, Mrs. ALICE G., Stoughton, Mass.: Nest of the Carolina wren, *Thryothorus ludovicianus*, from Alabama (57013).
- TERRY, MYRON J., Johannesburg, Cal.: Indian skull (55826).
- TERZIAN, D., Washington, D. C.: Collection of Persian, Turkish and Arabic tiles and fragments of tiles, and a Persian ornament for a horse (55709: purchase).
- TEVIS, LANSING K., San Francisco, Cal.: Miniature basket ($\frac{1}{8}$ of an inch in diameter) from Arizona (56661).
- TEYSSIER, HENRY, Clermont-Ferrand, France: Sample of the diatomaceous deposit at Andreuget, Haute-Loire, France (56047).
- THATCHER, AARON H., Rich Hill, Mo.: An anvil which was in possession of the Mormons at Nauvoo, Ill., many years previous to their journey to Salt Lake (56283).
- THIERFELDER, A. O., New Rochelle, N. Y.: Short-tailed shrew, *Blarina brevicauda*, from New Rochelle (56006).
- THOMAS, C. AUBREY, Kennett Square, Pa.: Specimen of Muhlenberg's turtle (57075).
- THOMAS-DURIS, G., Château de Legaud, par Eymoutiers, Haute-Vienne, France: 4 living specimens of *Sedum* from Michoacan, Mexico (56320).
- THOMPSON, Dr. J. C., U. S. Navy: Insects, reptiles and batrachians, from California (55807; 55952); insects and bones of *Chondrotus te-*

THOMPSON, DR. J. C.—Continued.

nebrosus (56205); reptiles, insects and a bat, from Mexico (56465); reptiles and amphibians from the Pacific coast (56518). (See under Dr. F. H. Stibbens.)

THURLOW, F. W., Hockley, Tex.: 17 plants from Texas (56321).

TIDESTROM, IVAR, U. S. Department of Agriculture, Washington, D. C.: 108 plants chiefly from the eastern part of the United States (55936; 57069); 76 plants from the southeastern part of the United States (56252); 100 plants from various localities (56664; 56874); 50 plants chiefly from the western part of the United States (56777).

TIFFANY, LOUIS C., GRANITE QUARRIES OF, Cohasset, Mass.: A 5-inch cube of granite (56661).

TIMBERLAKE, P. H., Bureau of Entomology, Washington, D. C.: Spiders and beetle larvæ, from the White Mountain region, N. H. (56704).

TISDEL, MRS. WILLARD PARKER, Washington, D. C.: 2 ancient Peruvian vases, parts of earthenware effigies from Guatemala and Colombia, 6 oil paintings of South American Indians, and 2 paintings on cedar from Carthagena, Colombia, South America (56547).

TODD, AURELIUS, Frontera, Mexico: Fossil echinoderm (55828).

TOLMAN, R. P., U. S. National Museum: Material for an exhibit of monotypes (57081); 20 specimens of rotary intaglio, 15 pages of half-tone relief and type printing and 9 plates of men's fashions (57106).

TOMACELLI, D. C., Villa Alta, Mexico: 4 specimens of *Agave* fibre (57072).

TONDUZ, A., San José, Costa Rica: 140 plants from Costa Rica (56772: purchase).

TORONTO, CANADA, ROYAL ONTARIO MUSEUM OF MINERALOGY: 31 specimens of rocks and ores from Canada (56581: exchange).

TRASK, MRS. BLANCHE, Avalon, Cal.: Snake and lizard from California (56136).

TREASURY DEPARTMENT:

Set of 18 Dutch standard sugar samples (Nos. 8 to 25, inclusive), received through the Division of Customs. This standard has been in use for 40 years, until the passage of the tariff bill of 1913 (55980); a basket of Chinese "medicine tea," a low grade of tea much over-fermented, and 2 packages of "kum-wo-cha," a medicated tea exported from Hong Kong to Hawaii, received through the Supervising Tea Examiner (56276).

TRENIS, O. J., Washington, D. C.: Duck hawk, *Falco peregrinus anatum*, sparrow hawk, *F. sparverius*, and red-shouldered hawk, *Buteo lineatus*, in immature plumage, all from Washington (56596; 56608); red-tailed hawk, *Buteo borealis* (56648).

TUCKERMAN, Miss EMILY, Washington, D. C.: Piece of point de France et Personages (56655); silver wine cooler with 2 bottle holders, presented by George Washington to Oliver Wolcott, Secretary of the Treasury, and lent to the National Museum by his great granddaughter (56724: loan).

TUMLEY, W. D., Fort Meade, Fla.: Galls of *Cecidomyia viticola* (56879).

TÜCKHEIM, Baron H. von, Coban, Guatemala: 3 specimens (1 living) of *Epiphyllum* from Chajjar, Guatemala (56646).

TURNER, G. B., U. S. National Museum: Bat, *Eptesicus fuscus fuscus*, from Washington, D. C. (56967).

TURNER, H. J. ALLEN, Nairobi, British East Africa: 30 mammals from British East Africa (55707; 55983; 56616).

TWEEDLIE, ROBERT, Balboa, Canal Zone: Fishes, snakes, mollusks, crustaceans, and a sipunculid, from the Pacific side of the Panama Canal Zone (56821).

TYLER, Mrs. JOHN PAUL, Baltimore, Md.: Collection of ancient coins, seals and bronze figurines, gathered in Syria by the Rev. C. S. Sanders, and deposited by his daughter (56635: loan).

UDDEN, Dr. JOHAN AUGUST, University of Texas, Austin, Tex.: 2 specimens of Carboniferous crinoids from Texas (56621).

ULRICH, Dr. E. O., U. S. Geological Survey, Washington, D. C.: About 3,000 specimens of Paleozoic fossils from Canada (56016).

UNITED STATES CAPITOL (through Mr. Elliott Woods, Superintendent, U. S. Capitol Building and Grounds): Bronze doors for the west entrance of the Capitol, executed by Louis Amateis, sculptor (56508: loan).

UNITED STATES GYPSUM COMPANY, Chicago, Ill.: 20 specimens of gypsum products, received at the close of the Louisiana Purchase Exposition, 1904 (56152); 1 1,200-pound specimen of gypsum from Blue Rapids, Kans., and a series of 6 varieties of gypsum products (57126).

UNIVERSAL WINDING COMPANY, Boston, Mass.: A series of specimens showing the various classes of materials wound on tubes, cops, cones and bobbins by the universal winding machine (56991); the original model of the universal winding machine (57030: loan).

UNIVERSITETETS ZOOLOGISKE MUSEUM. (See under Copenhagen, Denmark.)

UNIVERSITY OF CALIFORNIA, MUSEUM OF VERTEBRATE ZOOLOGY. (See under California, University of.)

UNIVERSITY OF COLORADO. (See under Colorado, University of.)

UNIVERSITÉ DE LIÈGE. (See under Liège, Belgium.)

UNIVERSITY OF MICHIGAN, MUSEUM OF ZOOLOGY. (See under Michigan, University of.)

UNIVERSITY OF NEVADA. (See under Nevada, University of.)

UNIVERSITY OF PENNSYLVANIA, DEPARTMENT OF BOTANY. (See under Pennsylvania, University of.)

UNIVERSITY OF SOUTH DAKOTA, UNIVERSITY MUSEUM. (See under South Dakota, University of.)

UNIVERSITY OF WYOMING. (See under Wyoming, University of.)

URBAN, Prof. I., Dahlem bei Steglitz (Berlin), Germany: 197 plants collected in Santo Domingo by Padre Fuertes (55848: purchase).

VAN DUZER, M. C., Buffalo, N. Y.: 5 specimens, representing 3 species, of Dolichopodidae (55883); 6 specimens of *Hoplocampa halcyon* (56933).

VAN DYKE, Mrs. A. M., Lawtey, Fla.: Gobelin square mounted in tabletop and glazed, French, 17th century (56165: loan).

VAN RAALTE, E. & Z., New York City: 36 samples of American-made veillings and 2-yard lengths of 24 patterns (55938).

VAN SCHAIK, Mrs. JOHN, jr., Washington, D. C.: Cameo set of 5 pieces (2 bracelets, 2 earrings and a pendant); 3 brooches (1 of porcelain, 1 of enamel and 1 set with a trilobite); 2 pendants (1 of Limoges enamel set with jewels and 1 of Roman mosaic); 1 ivory triptych, 15th century (57076).

VENICE MARINE BIOLOGICAL STATION, UNIVERSITY OF SOUTHERN CALIFORNIA, Venice, Cal.: 7 vials of crustaceans* from California (56085); 2 crabs representing 2 species, 3 adults and 2 larvae of Coleoptera, a specimen of *Otodistomum veliporum?* and a monogenetic trematode (56559); 4 specimens of nemerteans, *Cerebratulus marginatus* and *Lineus pictifrons* (56790; 57082); 7 bottles of sponges (57102).

VIENNA, AUSTRIA, K. K. NATURHISTORISCHES HofMUSEUM: 100 specimens of cryptogams (Kryptogamæ Exsiccatae, Century XXI) (56103: exchange).

VIERCK, H. L., Natural History Museum, Kansas University, Lawrence, Kans.: 8 specimens of land and fresh-water mollusks from Minnesota (56433).

VINCENT, Mrs. ELIZABETH CARTER (through Mr. O. W. Norton, Chicago, Ill.): Sword of Brig. Gen. Strong Vincent, U. S. Volunteers, which he carried from April, 1861, until July 2, 1863, when he was mortally wounded while in command of the brigade defending Little Round Top, Gettysburg (55740).

VOLKART, HENRY, St. Gallen, Switzerland: 8 specimens and 3 photographs of Tunisian and Algerian weaving with quadrangular boards; 2 photographs of old heddles (55957).

WAGNER, GILBERT C., Woodside, Long Island, N. Y.: 6 specimens of minerals (57057).

WAGNER, ROY S., Fresno, Cal.: A small collection of insects (56767).

WAGSTAFF, R. O., Sugar Grove, Ohio: 14 mineral specimens from North Carolina (56338).

WALD, Miss MARGARET F., Keyser, Colo.: Specimen of tiger beetle, *Cicindela pulcher* (55916).

WALT, HARRY, San Diego, Cal.: Winged male adult of *Abedus macronyx* (56815).

WANAMAKER, RODMAN, Philadelphia, Pa.: 154 bromide enlargements of pictures representing various types of the North American Indian, his country and home life, taken by Dr. Joseph K. Dixon upon two historical expeditions sent out by Mr. Wanamaker to study the life and character of the Indian (56840).

WAND, W. J., Sanger, Tex.: Beetle, *Strategus julianus* (55992).

WAR DEPARTMENT:

United States magazine rifle, caliber .30, model of 1903 (57079).

Office of Public Buildings and Grounds: Section of trunk of empress tree, *Paulownia tomentosa*,

WAR DEPARTMENT—Continued.

from the Smithsonian grounds (56281).

WARD, Mrs. COONLEY, Wyoming, N. Y.: An exhibition slab of the Estacado meteorite (55682); 7 specimens of meteorites—Gilgoir, Canyon City, Alfanello, Descubridora, Pultusk, Mocs and Knyahinya (55933; purchase).

WARD, F. D., Johannesburg, South Africa: Dugong, *Dugong dugon* (56551).

WARD, Mrs. MARGARET T., Rushton, Mich.: Egg of a domestic duck (55747).

WARD, ROWLAND, LTD., London, England: Specimen of Pere David's deer, *Elaphurus davidianus* (56373; purchase).

WARNER-GODFREY COMPANY, New York City: 5 2-yard cuts of novelties (56801).

WASHBURNE, CHESTER W., Washington, D. C.: 2 skulls found in sand dunes on the east coast of Patagonia, north side of Peninsula Valdez, Chubut Territory, Argentina (55919); 12 specimens of fossil fresh-water crustaceans from the Payette formation near Vale, Oreg., and a stone ball from an Indian mound west of Junction, Oreg. (56197); skull found in sand dune at San José, Peninsula Valdez (56240).

WASHINGTON, CHARLES S., U. S. National Museum: Earthworms from Washington, D. C. (56060); parasitic worm, *Ascaris suum* (56245); leeches from turtle captured at Burrville, D. C. (56847).

WATSON, Mrs. HARRY W., Pinos Altos, N. Mex.: 7 unmounted photographic prints—views of caves on the west fork of the Gila River, N. Mex. (57078).

WEBB, JOHN S., Disputanta, Va.: Marsh hawk, *Circus hudsonius*, from Virginia (56222).

WEED, A. C., North Rose, N. Y.: Firefly, *Photinus ardens*, and 3 glow-worms (55996).

- WEIGEL, THEODOR OSWALD, Leipzig, Germany: 50 specimens of *Salix* (Fascicle VIII of Toepffer's *Salicetum Exsiccatum*) (56287: purchase).
- WEINGART, W., Georgenthal, Thüringen, Germany: 11 living specimens of Cactaceae (55804; 55826). Exchange.
- WELD, LEWIS H., Medina, N. Y.: 3 galls and 62 paratypes of *Neuroterus washingtonensis* from Friday Harbor, Puget Sound, Wash. (55725).
- WELSBACH LIGHT COMPANY, Gloucester City, N. J.: 17 specimens of materials used in the manufacture of Welsbach mantles, received at the close of the Louisiana Purchase Exposition, 1904 (56150).
- WENZEL, C. A., Jaro, Leyte, P. I.: 338 plants from the Philippine Islands (56067; 56771). Purchase.
- WESENBERG-LUND, Dr. C., Hillerød, Denmark (through Dr. Adam Glede Böving): 21 vials of specimens from the collections on which the donor based his recent paper on the biologies of fresh-water insects (56427).
- WEST, Capt. H. S., Point Pleasant, W. Va. (through Dr. L. V. Guthrie, Huntington, W. Va.): Upper cheek tooth of an extinct species of horse, *Equus niobrarenensis*, from West Virginia (56031: loan).
- WESTERN AUSTRALIAN MUSEUM AND ART GALLERY. (See under Perth, Western Australia.)
- WESTERN COAL AND MINING Co., St. Louis, Mo.: Coal mine model, received at the close of the Louisiana Purchase Exposition, 1904 (56634).
- WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, East Pittsburgh, Pa.: 42 specimens of crude mica and its industrial products (56386).
- WESTMORELAND COAL COMPANY, Irwin, Pa.: Lump of coal from Criterion Mine, Rillton, Pa. (56720).
- WEST VIRGINIA & PITTSBURG SAND Co., Berkeley Springs, W. Va.: 8 samples of glass sand showing quarry and mill products (56348).
- WETMORE, ALEX, Bureau of Biological Survey, Washington, D. C.: 4 bird skins from Virginia (56851).
- WETMORE, Maj. WILLIAM BOERUM, Washington, D. C.: Plaster cast of the hand of Abraham Lincoln (55705).
- WHEAT, SILAS C., Brooklyn, N. Y.: Paratypes of *Acmaea fergusoni* and *Urosalpinx cinereus* var. *atkinsae*, from Hempstead Bay, Long Island Sound, N. Y. (56059).
- WHEELER, WILLIAM D., Washington, D. C.: Portrait group, in oil, by Thomas Sully—"Portrait of the artist's daughter, Mrs. John H. Wheeler, and her sons" (56689: loan).
- WHELFLEY, Dr. H. M., St. Louis, Mo.: Flint nodules and worked fragments of flint, from the vicinity of Cobden, Ill. (55830).
- WHERRY, Dr. EDGAR T., U. S. National Museum: 4 specimens of minerals from Avondale, Pa. (56253); 2 specimens of beraunite from Hellertown, Pa. (56696).
- WHITE HOUSE, Washington, D. C. (through the Office of Public Buildings and Grounds): A mounted deer head and 2 mounted pheasants (56640).
- WHITMAN, CLARENCE, & Co., INC. (See under Ponemah Mills.)
- WICKERSHAM, Hon. JAMES, Delegate to Congress from Alaska: A Shoshone pipe (55818).
- WILCOX, Miss MARY R., Chevy Chase, Md.: Overdress and flounce of blonde lace, and bodice of old-gold satin brocaded in colors, worn by Mrs. Andrew Jackson Donelson, niece and adopted daughter of Mrs. Andrew Jackson; tortoise-shell back-comb carved with national emblems and medallions of Jackson, Jefferson and Washington, presented to Mrs. Andrew Jackson after the battle of New Orleans (56545); silver filigree card-case used by Mrs. Andrew Jackson (56639); a printed invitation to a ball given in honor of

- WILCOX, Miss MARY R.—Continued.
the election of Gen. Andrew Jackson to the Presidency of the United States, dated December 10, 1828, and addressed to Mrs. Andrew J. Donelson (56683). Loan.
- WILCOX, Brig. Gen. TIMOTHY E., U. S. Army (retired), Washington, D. C.: 3 specimens of *Vitis* from the District of Columbia (55785).
- WILCOX, WALTER D., Washington, D. C.: 3 photographs—landscapes, Canadian Rockies, reproduced from autochromes by the donor (57130).
- WILD, WILLIAM, East Aurora, N. Y.: 11 specimens of bred Coleoptera (56575).
- WILKES, Miss JANE, Washington, D. C.: Personal relics of Rear Admiral Charles Wilkes, U. S. Navy (56944).
- WILLCOX, JOSEPH, Philadelphia, Pa.: 4 specimens of Tertiary fossils from the Miocene of North Carolina and the Pliocene of Florida (56419).
- WILLIAMS, A. H., Gainesville, Tex.: Specimen of native sulphur (56323).
- WILLIAMS, R. W., Office of the Solicitor, U. S. Department of Agriculture, Washington, D. C.: 98 bird skins from the United States (56950).
- WILLIAMS & WILKINS COMPANY, Baltimore, Md.: 5 specimens showing method of Waverly Press in binding a magazine (56369).
- WILLIAMSON, Prof. E. B., Bluffton, Ind.: 46 dragonflies from North, Central and South America, representing 10 species and including 3 species new to the Museum collection, four of the specimens being cotypes belonging to one species (56110); 13 dragonflies, representing 4 species, from Arizona and Trinidad, including a male paratype of *Metaleptobasis mauritia*, n. sp., from Trinidad (56199); 57 North American dragonflies from Texas, Oklahoma and other localities, representing 20 species and including paratypes of 1 new to the Museum collection (56404).
- WILMER, Col. L. WORTHINGTON, Louthian House, Ryde, Isle of Wight, England: 50 fossil shells, insects and a plant, from the Isle of Wight (56041).
- WILSON ALUMINUM COMPANY, Holcomb's Rock, Va.: 9 specimens of iron alloys, received at the close of the Louisiana Purchase Exposition, 1904 (56151).
- WILSON, PHILIP D., Bisbee, Ariz.: 3 specimens of cuprodesclozite (new variety); type material (56063).
- WILSON, Mrs. THOMAS HAMILTON, and Miss ABRECBOMBIE, Washington, D. C.: Articles of early American wearing apparel and accessories of dress (56534: loan).
- WIMSATT, W. C., Washington, D. C.: Barn owl, *Tyto pratincola*, from Washington (56214).
- WINCHESTER REPEATING ARMS COMPANY, New Haven, Conn.: 2 Winchester sporting rifles (56763).
- WINKLEY, Rev. H. W., Danvers, Mass.: About 50 specimens, representing 6 species, of marine and land shells from Eastport, Me., and Provincetown, Mass. (56191).
- WITCOMBE, McGEACHIN & Co., New York City: 19 lengths of 2 yards each of old English hand-printed chintzes (56219).
- WOOD, NELSON R., U. S. National Museum: 6 specimens of *Neoseps* and 2 frogs, from Florida (56537); young robin, *Planesticus migratorius*, and young blue jay, *Cyanocitta cristata*, from the District of Columbia (57020).
- WOOD, Mrs. O. E., Kingston, N. Y.: 8 pieces of brassware (56739: loan).
- WOODBURY, Miss ELLEN C. DEQ. (through Mr. Gist Blair, executor, Washington, D. C.): Silver and coral rattle which belonged to John Hancock, Governor of Massachusetts; also papers establishing its authenticity (56535: bequest).
- WOODS, FRANCIS L. (See under Charles H. Hussey.)

- WOODWARD, S. W., Washington, D. C.: Drawing in color of a mosaic map of Palestine and adjacent regions (56365). (See under Egypt Exploration Fund.)
- WOODWARD & LOTHROP, INC., Washington, D. C.: 12 samples of cotton ratine dress goods (56969).
- WOOLLEY, CLAUDE L., Baltimore, Md.: A circular sundial with aluminum base and brass gnomon, calculated for the latitude of Peking, China, 40° north, and inscribed with Chinese characters (56669).
- WOOTEN, Maj. W. P., U. S. Army, Honolulu, Hawaii: Diatomaceous mud from Pearl and Hilo harbors, Hawaii (55721).
- WORCESTER NATURAL HISTORY SOCIETY, Worcester, Mass. (through Mrs. Ella L. Horr, custodian): Specimen of a young gecko, *Sphaerodactylus*, possibly from Cuba (55734).
- WURZLOW, E. C., Houma, La.: 6 living specimens of *Opuntia* and 5 bulbs of *Hymenocallis*, from Louisiana (55783; 56139).
- WYOMING, UNIVERSITY OF, Laramie, Wyo.: 940 plants from the western part of the United States (56045: exchange).
- YELLOWSTONE NATIONAL PARK. (See under Interior, Department of.)
- YOTHERS, W. W., Orlando, Fla.: Lizard, *Rhineura floridana*, from Florida (56672).
- YOUNG, JAMES HAY, Meredith, Victoria, Australia: Specimens of *Paryphanta*, *Vivipara* and *Natica*, from Australia (56684); Tertiary mollusks and Ordovician graptolites, from Australia (56755). Exchange.
- YOUNG, R. T., University of North Dakota, University, N. Dak.: 13 insects (56680).
- ZEESE-WILKINSON Co., New York City: 16 specimens of materials used in the making of 3-color relief printing plates (55974).
- ZETEK, JAMES, Ancon, Canal Zone: Bat, *Artibeus*, 2 vials of myriapoda, 20 specimens of land and fresh-water shells and 47 lots of marine shells, collected in the Canal Zone; also 3 specimens of onychophores, *Peripatus ruder*, from Chiriqui (56210; 56977).
- ZIMMERMAN, MARK E., White Cloud, Kans.: Fragmentary skull and femur, from a stone grave on a farm at the mouth of Mission Creek, Doniphan County, Kans. (56532).
- ZOOLOGISCHE SAMMLUNG UND ZOOLOGISCHES INSTITUT. (See under Munich, Germany.)

LIST OF PUBLICATIONS OF THE U. S. NATIONAL MUSEUM ISSUED DURING THE FISCAL YEAR 1913-1914, AND OF PAPERS PUBLISHED ELSEWHERE WHICH RELATE TO THE COLLECTIONS.

PUBLICATIONS OF THE MUSEUM.

ANNUAL REPORTS.

Smithsonian Institution | United States National Museum | — | Report on the progress and condition of the United States | National Museum for the | year ending June 30, 1912 | (Seal) | Washington | Government Printing Office | 1913
8vo., pp. 1-165.

Smithsonian Institution | United States National Museum | — | Report on the progress and condition of the United States | National Museum for the | year ending June 30, 1913 | (Seal) | Washington | Government Printing Office | 1914
8vo., pp. 1-201.

PROCEEDINGS.

Smithsonian Institution | United States National Museum | — | Proceedings | of the | United States National Museum | — | Volume 44 | — | (Seal) | Washington | Government Printing Office | 1913
8vo., pp. i-xii, 1-666, pls. 1-82, 90 figs., 1 map.

(Seal) | Washington | Government Printing Office | 1913
8vo., pp. i-xi, 1-669, pls. 1-57, 37 figs., 6 maps.

Smithsonian Institution | United States National Museum | — | Proceedings | of the | United States National Museum | — | Volume 45 | — | (Seal) | Washington | Government Printing Office | 1914
8vo., pp. i-xiii, 1-681, pls. 1-57, 212 figs.

Smithsonian Institution | United States National Museum | — | Proceedings | of the | United States National Museum | — | Volume 46 | — | (Seal) | Washington | Government Printing Office | 1914
8vo., pp. i-xiii, 1-681, pls. 1-57, 212 figs.

BULLETINS.

Smithsonian Institution. | United States National Museum. | — | Bulletin | of the | United States National Museum. | No. 50. | — | The Birds | of | North and Middle America. | By | Robert Ridgway, | Curator, Division of Birds. | — | Part VI. | — | (Seal) | Washington | Government Printing Office. | 1914.
8vo., pp. i-xx, 1-882, pls. I-XXXVI.

Smithsonian Institution | United States National Museum | Bulletin 71 | — | A monograph of the Foraminifera | of the North Pacific Ocean | — | Part III. Lagenidæ | — | By | Joseph Augustine Cushman | Of the Boston Society of Natural History | (Seal) | Washington | Government Printing Office | 1913
8vo., pp. i-ix, 1-125, pls. 1-47.

Smithsonian Institution | United States
National Museum | Bulletin 71 | — |
A monograph of the Foraminifera |
of the North Pacific Ocean | — | Part
IV. Chloostomellidae, Globigerinidae,
Nummulitidae | — | By | Joseph Au-
gustine Cushman | Of the Boston So-
ciety of Natural History | (Seal) |
Washington | Government Printing
Office | 1914

8vo., pp. i-vi, 1-46,
pls. 1-19.

Smithsonian Institution | United States
National Museum | Bulletin 80 | — |
A descriptive account of the build-
ing | recently erected for the de-
partments | of natural history of
the United | States National Mu-
seum | By | Richard Rathbun | As-
sistant Secretary of the Smithsonian
Institution in Charge | of the United
States National Museum | (Seal) |
Washington | Government Printing
Office | 1913

8vo., pp. 1-131, pls.
1-34.

Smithsonian Institution | United States
National Museum | Bulletin 83 | — |
Type species of the genera of | ich-
neumon flies | By | Henry L. Viereck
| Of the Bureau of Entomology,
United States | Department of Agri-
culture | (Seal) | Washington | Gov-
ernment Printing Office | 1914

8vo., pp. 1-v, 1-186.

Smithsonian Institution | United States
National Museum | Bulletin 84 | — |
A contribution to the study of ophi-
urans | of the United States Na-
tional Museum | By | René Köhler |
Professor of Zoology, University of
Lyon, France | (Seal) | Washington
| Government Printing Office | 1914

4to., pp. 1-vii, 1-173,
pls. 1-18.

Smithsonian Institution | United States
National Museum | Bulletin 85 | — |
A monograph of the | jumping plant-
lice or Psyllidae | of the New World
| By | David L. Crawford | Of the
Laboratory of General Biology, Cor-
nell University | Ithaca, New York
| (Seal) | Washington | Govern-
ment Printing Office | 1914

8vo., pp. 1-ix, 1-186,
pls. 1-30.

Smithsonian Institution | United States
National Museum | Bulletin 86 | — |
A monograph of the genus Chor-
delles | Swainson, type of a new
family | of goatsuckers | By | Harry
C. Oberholser | Of the Biological
Survey, United States | Department
of Agriculture | (Seal) | Washing-
ton | Government Printing Office |
1914

8vo., pp. 1-vii, 1-123,
pls. 1-6.

Smithsonian Institution | United States
National Museum | Bulletin 87 | — |
Culture of the ancient Pueblos of |
the upper Gila River region, | New
Mexico and Arizona | — | Second
Museum-Gates Expedition | — | By |
Walter Hough | Curator, Division of
Ethnology, United States National
Museum | (Seal) | Washington |
Government Printing Office | 1914

8vo., pp. 1-xiv, 1-139,
pls. 1-29, figs. 1-348.

PAPERS PUBLISHED IN SEPARATE FORM.

FROM VOLUME 45 OF THE PROCEEDINGS.

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| <p>No. 1976. <i>Treeshrews</i>: An account of the mammalian family <i>Tupaia</i>dæ. By Marcus Ward Lyon, jr. pp. 1-188, pls. 1-11, 15 figs.</p> <p>No. 1985. New species of Silurian fossils from the Edmunds and Pembroke formations of Washington County, Maine. By Henry Shaler Williams. pp. 319-352, pls. 29-31.</p> <p>No. 2005. The Mount Lyell copper district of Tasmania. By Chester G. Gilbert and Joseph E. Pogue. pp. 609-625, pls. 48-51, one map.</p> | <p>No. 2006. Results of the Yale Peruvian Expedition of 1911. <i>Lepidoptera</i>. By Harrison G. Dyar. pp. 627-649.</p> <p>No. 2007. Description of <i>Mesoplodon mirum</i>, a beaked whale recently discovered on the coast of North Carolina. By Frederick W. True. pp. 651-657, pls. 52-57, one fig.</p> |
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FROM VOLUME 46 OF THE PROCEEDINGS.

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| <p>No. 2008. New genera and species of <i>Thysanoptera</i>, with notes on distribution and food plants. By A. C. Morgan. pp. 1-55, figs. 1-79.</p> <p>No. 2009. Notes on an unusually fine slab of fossil crinoids. By R. S. Bassler. pp. 57-59, pls. 1, 2.</p> <p>No. 2010. New parasitic <i>Hymenoptera</i> of the genus <i>Elphosoma</i>. By T. D. A. Cockerell. pp. 61-64.</p> <p>No. 2011. Notes on a collection of fishes from the Island of Shikoku in Japan, with a description of a new species, <i>Gnathypops iyonis</i>. By David Starr Jordan and William Francis Thompson. pp. 65-72, figs. 1-5.</p> <p>No. 2012. A new nematode, <i>Rictularia splendida</i>, from the coyote, with notes on other coyote parasites. By Maurice C. Hall. pp. 73-84, figs. 1-6.</p> | <p>No. 2013. Notes on the bats of the genus <i>Molossus</i>. By Gerrit S. Miller, jr. pp. 85-92.</p> <p>No. 2014. Preliminary report on a recently discovered Pleistocene cave deposit near Cumberland, Maryland. By James Williams Gidley. pp. 93-102, figs. 1-8.</p> <p>No. 2015. New moth-flies (<i>Psychodidæ</i>) bred from Bromeliaceæ and other plants. By Frederick Knab. pp. 103-106.</p> <p>No. 2016. New mollusks from the Bahama Islands. By Paul Bartsch. pp. 107-109, plate 3.</p> <p>No. 2017. Notes on the <i>Odonata</i>, or dragonflies, of Bumping Lake, Washington. By Clarence Hamilton Kennedy. pp. 111-126, 58 figs.</p> <p>No. 2018. A synopsis of the genera of <i>Agromyzidæ</i>, with descriptions of new genera and species. By J. R. Malloch. pp. 127-154, pls. 4-6.</p> |
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- No. 2019. A new sponge from the New Jersey Cretaceous. By Hervey W. Shimer and Sidney Powers. pp. 155-156, pl. 7.
- No. 2020. The variation exhibited by mainland and island specimens of the Hibakari snake, *Natrix vibakari* (Bole). By J. C. Thompson. pp. 157-160.
- No. 2021. The extinct bisons of North America; with description of one new species, *Bison regius*. By Oliver P. Hay. pp. 161-200, pls. 8-19, figs. 1-10.
- No. 2022. New starfishes from the Philippine Islands, Celebes, and the Moluccas. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910. — No. 30.] By Walter K. Fisher. pp. 201-224.
- No. 2023. On a brackish water Pliocene fauna of the Southern Coastal Plain. By William Healey Dall. pp. 225-237, pls. 20-22.
- No. 2024. The genera of flies in the subfamily Botanoblinæ with hind tibial spur. By J. R. Malloch. pp. 239-266, pls. 23, 24.
- No. 2025. Camels of the fossil genus *Camelops*. By Oliver P. Hay. pp. 267-277, pls. 25, 26, one fig.
- No. 2026. Revision of the crinoid genus *Himerometra*. By Austin Hobart Clark. pp. 279-289.
- No. 2027. A review of the fishes of the genus *Osmerus* of the California coast. By Mary Fisk. pp. 291-297, one fig.
- No. 2028. A review of the Philippine land mammals in the United States National Museum. By N. Hollister. pp. 299-341, pls. 27-29.
- No. 2029. Descriptions of new Hymenoptera, No. 8. By J. C. Crawford. pp. 343-352, figs. 1-8.
- No. 2030. Descriptions of new species of crabs of the families Grapsidæ and Ocypodidæ. By Mary J. Rathbun. pp. 353-358, pls. 30-33.
- No. 2031. Descriptions of twenty-three new genera and thirty-one new species of Ichneumonifles. By Henry L. Viereck. pp. 359-386.
- No. 2032. A list of the Rotatoria of Washington and vicinity, with descriptions of a new genus and ten new species. By Harry K. Harring. pp. 387-405, pls. 34-38.
- No. 2033. Gad-flies (Tabanidæ) of the genus *Stibasoma*. By Frederick Knab. pp. 407-412.
- No. 2034. Revision of the bats of the genus *Glossophaga*. By Gerrit S. Miller, jr. pp. 413-429.
- No. 2035. New Hymenoptera from North America. By A. B. Gahan. pp. 431-443, pl. 39.
- No. 2036. Some new American Pycnodont fishes. By James Williams Gidley. pp. 445-449, figs. 1-6.
- No. 2037. North American spring-tails of the subfamily Tomocerinæ. By Justus W. Folsom. pp. 451-472, pls. 40, 41, figs. 1-10.

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| <p>No. 2038. Notes on the fossil crinoid genus <i>Homocrinus</i> Hall. By Edwin Kirk. pp. 473-483, pl. 42.</p> <p>No. 2039. New species of noctuid moths from tropical America. By William Schaus. pp. 485-549.</p> <p>No. 2040. Notes on a viviparous distome. By Edwin Linton. pp. 551-555, pl. 43.</p> | <p>No. 2041. A contribution toward a monograph of the homopterous insects of the family Delphacidae of North and South America. By David L. Crawford. pp. 557-640, pls. 44-49.</p> <p>No. 2042. Archeological investigations in Ste. Genevieve County, Missouri. By David I. Bushnell, jr. pp. 641-663, pls. 50-57, figs. 1-8.</p> |
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FROM VOLUME 47 OF THE PROCEEDINGS.

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| <p>No. 2043. New genera and species of Microlepidoptera from Panama. By August Busck. pp. 1-67.</p> <p>No. 2044. New species of crabs of the families Grapsidae and Ocypodidae. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 31.] By Mary J. Rathbun. pp. 69-85.</p> <p>No. 2045. Names applied to the North American bees of the genera <i>Lithurgus</i>, <i>Anthidium</i>, and allies. By T. D. A. Cockerell. pp. 87-94.</p> <p>No. 2046. The noctuid moths of the genera <i>Palindia</i> and <i>Domyx</i>. By Harrison G. Dyar. pp. 95-116.</p> <p>No. 2047. New genera and species of American Brachyrhynchous crabs. By Mary J. Rathbun. pp. 117-129, pls. 1-10, figs. 1-5.</p> | <p>No. 2048. Hymenoptera, superfamilies Apoidea and Chalcidoidea, of the Yale-Dominican Expedition of 1913. By J. C. Crawford. pp. 131-134.</p> <p>No. 2049. Two cottoid fishes from Monterey Bay, California. By Charles H. Gilbert. pp. 135-137, pl. 11.</p> <p>No. 2050. Report on the Lepidoptera of the Smithsonian Biological Survey of the Panama Canal Zone. By Harrison G. Dyar. pp. 139-350.</p> <p>No. 2051. The variations exhibited by <i>Thamnophis ordinoides</i> (Baird and Girard), a gartersnake inhabiting the Sausalito Peninsula, California. By Joseph C. Thompson. pp. 351-360.</p> |
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FROM VOLUME 16 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

- Part 10. *Annona sericea* and its allies. By William E. Safford. pp. i-vii, 263-275, pls. 85-99, figs. 42-44.
- Part 11. Nomenclature of the Sapote and the Sapodilla. By O. F. Cook. pp. i-vii, 277-285, pls. 100, 101, 1 fig.
- Part 12. A monograph of the Haueyae and Gongylocarpeae, tribes of the Onagraceae. By John Donnell Smith and J. N. Rose. pp. i-vii, 287-298, figs. 45-54.
- Part 13. *Botrychium virginianum* and its forms. *Sphenoclea zeylanica* and *Caperonia palustris* in the southern United States. By Ivar Tildstrom. pp. i-vii, 299-307, pls. 102, 103.

FROM VOLUME 17 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

Part 3. Mexican grasses in the United States National Herbarium. By A. S. Hitchcock. pp. i-xiv, 181-389.

Part 4. Studies of tropical American ferns—No. 5. By William R. Maxon. pp. i-x, 391-425, pls. 11-23, figs. 8-10.

Part 5. Studies of tropical American Phanerogams—No. 1. By Paul C. Standley. pp. i-x, 427-458, pls. 24-31.

FROM VOLUME 18 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

Part 1. Classification of the genus *Annona* with descriptions of new and imperfectly known species. By W. E. Safford. pp. i-xii, 1-68, pls. 1-41, figs. 1-75.

Part 2. New or noteworthy plants from Colombia and Central America—4. By Henry Pittier. pp. i-x, 69-88, pls. 42-56, figs. 76-87.

CLASSIFIED LIST OF PAPERS BASED WHOLLY OR IN PART ON THE NATIONAL COLLECTIONS.¹

MUSEUM ADMINISTRATION.

RATHEUN, RICHARD. Report on the progress and condition of the United States National Museum for the year ending June 30, 1912.

8vo., pp. 1-165, Aug. 7, 1913.

——— Report on the progress and condition of the United States National Museum for the year ending June 30, 1913.

8vo., pp. 1-201, 2 plans, May 2, 1914.

RATHEUN, RICHARD. A descriptive account of the building recently erected for the departments of natural history of the United States National Museum.

Bull. U. S. Nat. Mus.,
No. 80, pp. 1-131,
pls. 1-34.

ANTHROPOLOGY.

BROCKETT, PAUL. A permanent exhibit of graphic arts in the United States National Museum.

The Graphic Arts and Crafts Year Book,
1913-14, 6, pp. 55-58, 4 pls.

The article states that the object of the exhibit of graphic arts is to illustrate the evolution of printing and engraving, and to show how the results have been obtained by means of tools, materials, and printings. The matter is presented under the following heads: Development of language and writing; writing implements and methods; the art of printing; drawing; relief engraving; intaglio engraving; planography (lith-

BROCKETT, PAUL—Continued.

ography, zincography); substitute processes (processes partly chemical, partly mechanical, devised as substitutes for the older hand processes); color printing; photo-mechanical processes; the art of bookbinding.

BUSHNELL, DAVID I., jr. Archeological investigations in Ste. Genevieve County, Missouri.

Proc. U. S. Nat. Mus.,
46, No. 2042, Mar. 4,
1914, pp. 641-668,
pls. 50-57, figs. 1-8.

Embodies interesting data relating to the aboriginal occupancy of southeastern Missouri; and contributes considerably to our knowledge of the Illinois and other historic tribes and to

¹ A few papers published prior to this fiscal year are included, having been inadvertently omitted from previous reports.

BUSHNELL, DAVID I., Jr.—Continued.

the habits, customs and arts of the earlier inhabitants of the section who occupied the caves, buried their dead in stone cists, used flint hoes in cultivating crops, and manufactured salt by evaporation in great earthenware bowls. The culture forms an integral part of that of the great middle Mississippi Valley region in general. A brief report by Doctor Hrdlička on the skeletal remains shows no unusual features save in one case where slight artificial flattening of the cranium was observed.

DALL, WILLIAM HEALEY. An Eskimo artist.

The Nation, 97, No. 2510, New York, Aug. 7, 1913, p. 121.

A brief account of an Eskimo carver who made some remarkable carvings now in the collection of the National Museum.

FEWKES, J. WALTER. Great stone monuments in history and geography.

Smithsonian Misc. Colls., 61, No. 6, Sept. 16, 1913, pp. 1-50, figs. 1-50.

Brief account of the origin, character and probable significance of some of the better known monolithic monuments occurring throughout the world, with remarks on various distinctive types. One of the large stone figures from Easter Island, on exhibition in the National Museum, is referred to and illustrated.

FOOTE, J. S. The comparative histology of the femur.

Smithsonian Misc. Colls., 61, No. 8, Aug. 22, 1913, pp. 1-9, pls. 1-3.

Comprises in brief the results of the original investigations of Prof. Foote on many animal and human femora. It shows that the minute structure of the bones differs remarkably according to order and species, as well as at different stages of development of the same individual. There are also probably racial differences in the human family. The majority of

FOOTE, J. S.—Continued.

the human material utilized by Prof. Foote was from the anthropological collections of the National Museum.

HOUGH, WALTER. Culture of the ancient pueblos of the upper Gila River region, New Mexico and Arizona. Second Museum-Gates Expedition.

Bull. U. S. Nat. Mus., No. 87, Mar. 21, 1914, pp. i-xiv, 1-139, pls. 1-29, figs. 1-348.

A study of the material collected by the second Museum-Gates expedition on the upper Blue, San Francisco and Tularosa rivers, in the course of which a large series of articles from ceremonial and other caves was gathered. Excavations were also made in several pueblos, and thus a rather wide view of the culture of this region was obtained. Natural history specimens were also secured and their discussion forms the first chapter of the book. Following this, the objects of stone, bone and shell, of pottery or wood, or textiles, are described, as well as various classes of religious objects. The concluding chapter describes a number of mummies from the ruins.

HRDLÍČKA, ALEŠ. A report on a collection of crania and bones from Sorrel Bayou, Iberville Parish, Louisiana.

Journ. Acad. Nat. Sci., Phila., 16, 1913, pp. 95-99, figs. 1, 2.

Report on the measurements and examination of seventeen skulls and parts of one skeleton received in the spring of 1913, from Mr. Clarence B. Moore, and proceeding in the main from Sorrel Bayou, Iberville Parish, Louisiana. It is a continuation of the reports on the skeletal material collected by Mr. Moore during his explorations and preparatory to a contemplated and more comprehensive anthropological survey of the southern part of the United States. The report brings out a number of inter-

HRDLÍČKA, ALEŠ—Continued.

esting anthropological and pathological notes, as do also the preceding reports.

— Anthropological work in Peru in 1913, with notes on the pathology of the ancient Peruvians.

Smithsonian Misc. Colls., 61, No. 18, Feb. 12, 1914, pp. 1-vi, 1-69, pls. 1-26, figs. 1-3.

A report on the continuation of the writer's explorations along the coast and in the Sierras of Peru, with a summary of the observations on pathological conditions noted on the ample and mostly prehistoric skeletal material. Among the more important results of the work are (1) a definite tracing of the physical type of the pre-Columbian inhabitants of the coast and mountains over an extensive region, and (2) the definite determination that the Chimu and the Nasca peoples were physically integral parts of the predominantly brachycephalic coast population. Both the Nasca and the Chimu cultures continued to historic times. The pathology of pre-Columbian times shows absence or great scarcity of some of the most important modern constitutional diseases, as well as some peculiar local morbid conditions. Numerous ruins heretofore unknown to science were found. During the exploration no trace whatever was found of geologically ancient or even old prehistoric human remains.

— Restes, dans l'Asie orientale de la race qui a peuplé l'Amérique.

Congrès Int. d'Anthropologie d'Archéologie préhistoriques. Compte Rendu de la XIV^{me} session, Genève, 2, 1912, pp. 409-414. (Printed in 1914.)

Embraces in succinct form the results of the writer's observations on physical types resembling the American Indian in Siberia and Mongolia. (See

HRDLÍČKA, ALEŠ—Continued.

abstract of writer's publication on same subject in report of National Museum for 1912-1913, p. 172.)

— Débris en Asie orientale d'un peuple qui jadis peuplait l'Amérique.

Travaux de la Sous-Section de Troitzkowsk-Kiakhta, Section du pays d'Amour de la Société Impériale Russe de Géographie, 15, livr. 2, 1912 (1913), pp. 70-75.

Reprint in Russian of the paper previously cited.

— Early man in South America.

Proc. 18th Int. Congress of Americanists, 1, London, 1914, pp. 10-21.

A synopsis of data relating to early man in South America, showing that there is actually no scientific basis for acceptance of the conclusion that remains of geologically ancient man or his precursors have been found on that continent.

— The derivation and probable place of origin of the North American Indian.

Proc. 18th Int. Congress of Americanists, 1, London, 1914, pp. 57-62.

This paper, which was read before the 18th International Congress of Americanists held in London, 1912, gives in concrete form historical notes and the present anthropological evidence regarding the derivation of the American Indian and his probable affiliation with the Eastern Asiatics of early prehistoric (probably early Neolithic) times.

— Report on two crania from Saline Creek, Mo., collected by D. I. Bushnell, Jr.

Brief description of two interesting skulls, printed on p. 656 of the paper, entitled "Archeological investigations in Ste. Genevieve County, Missouri," by David I. Bushnell, Jr., above cited.

MAMMALS.

- ALLEN, GLOVER M. A new bat from Tonkin.
Proc. Biol. Soc. Washington, 26, Dec. 20, 1913, pp. 213, 214.
- Notes on the birds and mammals of the Arctic coast of East Siberia. Mammals.
Proc. New England Zool. Club, 5, Apr. 9, 1914, pp. 49-66, pl. 1.
- ALLEN, J. A. Revision of the *Melanomys* group of American Muridae.
Bull. Amer. Mus. Nat. Hist., 32, Art. 36, Nov. 17, 1913, pp. 533-555, pl. 68.
- Review of the genus *Microsciurus*.
Bull. Amer. Mus. Nat. Hist., 33, Art. 11, Feb. 26, 1914, pp. 145-165.
- ANDREWS, ROY C. The California gray whale (*Rhachianectes glaucus* Cope).
Memoirs Amer. Mus. Nat. Hist., (n. s.) 1, pt. 5, Monogr. of the Pacific Cetacea. 1, Mar. 1914, pp. 227-287, pls. 19-27, figs. 1-22.
 A skeleton in the collection of the National Museum is figured in this paper.
- BAILEY, VERNON. Two new subspecies of North American beavers.
Proc. Biol. Soc. Washington, 26, Oct. 23, 1913, pp. 191-194.
 Describes *Castor canadensis mexicanus* and *Castor canadensis michiganensis*.
- GOLDMAN, E. A. Descriptions of five new mammals from Panama.
Smithsonian Misc. Coll., 63, No. 5, Mar. 14, 1914, pp. 1-7.
 Describes *Chironectes panamensis*, *Lonchophylla concava*, *Lutra repanda*, *Felis pyrensis* and *Actus zonalis* as new species.
- A new bat of the genus *Mimón* from Mexico.
Proc. Biol. Soc. Washington, 27, May 11, 1914, pp. 75, 76.
 Describes *Mimón cosmela* as new.
- GOLDMAN, E. A. The status of *Cebus imitator* Thomas.
Proc. Biol. Soc. Washington, 27, May 11, 1914, p. 99.
- The status of certain American species of *Myotis*.
Proc. Biol. Soc. Washington, 27, May 11, 1914, p. 102.
- HELLER, EDMUND. New races of antelopes from British East Africa.
Smithsonian Misc. Coll., 61, No. 7, July 31, 1913, pp. 1-13.
 Describes *Neotragus moschatatus aksleyi*, *N. m. deserticola*, *Rhynchotragus kirkii nytkæ*, *Gazella granti roosevelti*, *G. g. serengetæ*, *G. g. raineyi*, *Cephalophus monticola musculoides*, *Redunca redunca tohi*, *Adenota kob alura*.
- New antelopes and carnivores from British East Africa.
Smithsonian Misc. Coll., 61, No. 13, Sept. 16, 1913, pp. 1-15.
 Describes *Tragelaphus scriptus olivaceus*, *Ammelaphus imberbis australis*, *Strepsiceros strepsiceros bea*, *Kobus defassa raineyi*, *Kobus ellipsiprymnus kuru*, *Oreotragus oreotragus aureus*, *Proteles cristatus termes*, *Nandinia binotata arborea*, *Mungos dentifer*, *Mungos albicaudus ferox*, *Bdeogale crassicauda omnivora*, *Ictonyx capensis albescentis*, *Felis ocreata nanda*, and *F. o. tatta*.
- The white rhinoceros.
Smithsonian Misc. Coll., 61, No. 1, Oct. 11, 1913, pp. 1-77, pls. 1-31.
- New races of ungulates and primates from Equatorial Africa.
Smithsonian Misc. Coll., 61, No. 17, Oct. 21, 1913, pp. 1-12.
 Describes *Gorgon albofimbriatus mearnsi*, *Budalis leiwel kentsi*, *Sylvicapra grimmia deserti*, *Colobus abyssinicus roosevelti*, *C. a. perotvalli*, *C. a. terrestris*, *Lasiopyga loucampae mauae*, *L. albogularis maritima*, *L. a.*

HELLER, EDMUND—Continued.

kima, *L. ascanius kaimosa*, *L. pygerythra tumbili* and *L. p. arenaria*.

— New races of carnivores and ba-boons from Equatorial Africa and Abyssinia.

Smithsonian Misc. Colls., 61, No. 19, Nov. 8, 1913, pp. 1-12.

Describes *Aonyx capensis hellei*, *Felis leo roosevelti*, *F. l. nyanzae*, *F. pardus fortis*, *F. p. chui*, *Acinonyx jubatus velox*, *A. j. raineyi*, *Papio anubis lestei* and *P. a. vigili*.

— Four new subspecies of large mammals from Equatorial Africa.

Smithsonian Misc. Colls., 61, No. 22, Jan. 28, 1914, pp. 1-7.

Describes *Hippopotamus amphibius kiboko*, *Phaenoceros africanus dufi*, *Equus quagga cunninghami* and *Crocuta crocuta feli*.

— New subspecies of mammals from Equatorial Africa.

Smithsonian Misc. Colls., 63, No. 7, June 24, 1914, pp. 1-12.

Describes *Thomomys adustus buehi*, *T. a. notatus*, *T. aureus bea*, *T. mesomelas elgonæ*, *T. m. momillanti*, *Helioscirtus rufobrachiatatus shindi*, *Tatera nigracauda percivali*, *Epimys kaiseri turneri*, *E. concha ismailis*, *E. kaiseri centralis*, *Mus gratus soricoides*, *Onomys hypoxanthus vallicola*, *Arvicanthia abyssinicus virescens*, *Lemniscomys dorsalis mearnsi*, and *Acomys ignitus montanus*.

— (See also under Theodore Roosevelt.)

HOLLISTER, N. Three new subspecies of grasshopper mice.

Proc. Biol. Soc. Washington, 26, Dec. 20, 1913, pp. 215, 216.

Describes *Onychomys torridus olarus*, *O. leucogaster capitulatus* and *O. l. brevicauritus*.

HOLLISTER, N. A review of the Philippine land mammals in the United States National Museum.

Proc. U. S. Nat. Mus., 46, No. 2028, Dec. 31, 1913, pp. 299-341, pls. 27-29.

Describes as new *Pachyura occulitidens*, *Taphonycteris capito*, *Miniopterus paululus*, *Charephon lusonus*, *Nannosciurus surrutilis*, *Epimys coloratus*, *E. robbinsii*, *E. mayonicus*, *E. leucophaeatus*, *E. vigoratus*, *E. basilianus*, *E. ornatus*, *E. benguetensis*, *Limnomys mearnsi*, *L. picinus*, *Apomys microdon*, *Pithecus mindorus* and *Rusa nigellus*.

— A new name for the marmot of the Canadian Rockies.

Science, (n. s.), 39, No. 998, Feb. 13, 1914, p. 251.

Marmota flaviventris is substituted for the preoccupied name, *Marmota sibilis*.

— Four new neotropical rodents.

Proc. Biol. Soc. Washington, 27, Mar. 20, 1914, pp. 57-59.

Describes *Proechimys rubellus*, *Myocaster coypus santacruzei*, *Lagostomus maximus petildensis* and *Hydrochareus hydrocharis notialis*.

— Four new mammals from tropical America.

Proc. Biol. Soc. Washington, 27, May 11, 1914, pp. 103-106.

Describes *Philander centralis*, *Neotomys squamipes pollens*, *Cebus margaretae* and *Cebus capucinus limitaneus*.

HOWELL, ARTHUR H. Ten new marmots from North America.

Proc. Biol. Soc. Washington, 27, Feb. 2, 1914, pp. 13-18.

Describes *Marmota monas rufescens*, *M. m. preblorum*, *M. flaviventer parvula*, *M. f. nosophora*, *M. f. luteola*, *M. f. warreni*, *M. f. obscura*, *M. caligata cascadenensis*, *M. c. nivaria*, and *M. c. sheldoni*.

HOWELL, ARTHUR H. Notes on the skunks of Indiana with a correction.

Proc. Biol. Soc. Washington, 27, May 11, 1914, p. 100.

——— Revision of the American harvest mice (genus *Reithrodontomys*).

North Amer. Fauna, 38, June 5, 1914, pp. 1-97, pls. 1-7, figs. 1-6.

Describes as new *Reithrodontomys megalotis nigrescens*, *R. amoles*, *R. fulvescens chiapensis*, *R. f. nelsoni*, *R. f. mustelinus*, *R. rufescens luteolus*, *R. alleni*, and, as a new subgenus, *Aporodon*.

JACKSON, HARTLEY H. T. New moles of the genus *Scalopus*.

Proc. Biol. Soc. Washington, 27, Feb. 2, 1914, pp. 19-21.

Describes the following as new: *Scalopus aquaticus howelli*, *S. a. machrinoides*, *S. a. pulcher*, *S. a. caryi*, and *S. infatus*.

——— New moles of the genus *Scapanus*.

Proc. Biol. Soc. Washington, 27, Mar. 20, 1914, pp. 55, 56.

Describes *Scapanus latimanus sericatus* and *S. l. grinnelli*.

LYON, MARCUS WARD, jr. Treeshrews: an account of the mammalian family Tupaiidæ.

Proc. U. S. Nat. Mus., 45, No. 1976, Nov. 29, 1913, pp. 1-188, pls. 1-11, figs. 1-15, 5 maps.

Describes as new *Tupaia longipes salatana*, *T. riabus*, *T. anambæ*, *T. montana baluensis*, *T. gracilis edarata*, *Anathana*, *Anathana wroughtoni*, *A. pallida*, *Dendrogale melanura baluensis*, *Tana tana besara*, *T. t. utara*, *T. t. tuancus*, *T. lingæ*, *T. cervicalis masæ* and *T. patana*.

MEARNS, EDGAR A. Descriptions of three new raccoons from the Mexican Boundary region.

Proc. Biol. Soc. Washington, 27, Mar. 20, 1914, pp. 63-67.

Describes *Procyon lotor fuscipes*, *P. l. ochraceus* and *P. l. californicus*.

MEARNS, EDGAR A. The earliest systematic name for the tucoza or Georgia pocket gopher.

Proc. Biol. Soc. Washington, 27, May 11, 1914, p. 102.

MILLER, GERRIT S., jr. Notes on the bats of the genus *Molossus*.

Proc. U. S. Nat. Mus., 46, No. 2013, Aug. 23, 1913, pp. 85-92.

Describes as new *Molossus fortis* and *M. debilis*.

——— Two new murine rodents from Baltistan.

Proc. Biol. Soc. Washington, 26, Oct. 23, 1913, pp. 197, 198.

Describes *Atitoola glacialis* and *Epinys rattus shigarus*.

——— Fifty-one new Malayan mammals.

Smithsonian Misc. Coll., 61, No. 21, Dec. 29, 1913, pp. 1-30.

Describes *Paradoxurus parvus*, *P. hermaphroditus rarus*, *P. h. senex*, *P. h. fuscus*, *P. h. pallens*, *P. h. pugnax*, *P. h. sacer*, *P. h. pulcher*, *P. h. canus*, *P. h. simplex*, *Arctogalidia macra*, *A. bicolor*, *A. mima*, *A. depressa*, *Epinys pannellus*, *E. tingius*, *E. fulmineus*, *E. roa*, *E. mara*, *E. tua*, *E. rattus turbidus*, *E. r. pauper*, *E. r. ciclana*, *E. r. dentatus*, *E. r. insularum*, *E. r. cæsul*, *E. r. fortunatus*, *E. borneanus*, *E. victor*, *E. pollens*, *E. potens*, *E. valens*, *E. luta*, *E. stentor*, *E. vociferans insularum*, *E. v. claræ*, *E. lepidus*, *E. gracilis*, *E. solus*, *Sclurus astriatristatus*, *S. dultensis dilutus*, *S. atrocapillus atrox*, *S. humilis*, *Lariscus berdmorei amotus*, *Ratufa melanopepla pentasulæ*, *R. phæopepla*, *R. celanopepla*, *Petaurista mimicus*, *Presbytis corvus*, *P. australis*, *P. vigilans*.

——— Revision of the bats of the genus *Glossophaga*.

Proc. U. S. Nat. Mus., 46, No. 2034, Dec. 31, 1913, pp. 413-429.

Describes as new *Glossophaga soricina microtis* and *G. s. valens*.

MILLER, GERRIT S., jr. Elliot's review of the Primates.

Science, (n. s.), 39, No. 992, Jan. 2, 1914, pp. 28-31.

——— Two new murine rodents from eastern Asia.

Proc. Biol. Soc. Washington, 27, May 11, 1914, pp. 89-91.

Describes *Apodemus prator* and *Epimys norvegicus socer*.

NELSON, E. W. A new bat from the eastern United States.

Proc. Biol. Soc. Washington, 26, Aug. 8, 1913, pp. 183, 184.

——— Description of a new subspecies of moose from Wyoming.

Proc. Biol. Soc. Washington, 27, Apr. 25, 1914, pp. 71-73.

Describes *Alces americanus shirasi*.

ROOSEVELT, THEODORE, and EDMUND HELLER. Life-histories of African game animals.

Charles Scribner's Sons, New York, Apr., 1914,

ROOSEVELT, THEODORE, and EDMUND HELLER—Continued.

2 vols., 8vo., pp. i-xxvii, 1-x, 1-798, 50 illustrations, 40 maps.

A systematic and popular account of the larger carnivores, the pigs, the hippopotamus, the giraffes, the antelopes, the hook-lipped and the square-mouthed rhinoceros, the zebras, and the elephant of British East Africa and Uganda. Technical details are based chiefly on material in the National Museum. (Smithsonian African Expedition and Rainey African Expedition.)

TRUE, FREDERICK W. Description of *Mesoplodon mirmum*, a beaked whale recently discovered on the coast of North Carolina.

Proc. U. S. Nat. Mus., 45, No. 2007, Nov. 29, 1913, pp. 651-657, pls. 52-57, fig. 1.

A detailed description of the species, originally described in Smithsonian Misc. Colls., 60, No. 25, March 14, 1913.

BIRDS.

BARTSCH, PAUL. Birds observed on the Florida Keys on April 25 to May 9, 1913.

Carnegie Inst. of Washington, Year Book No. 12, 1913, pp. 172-175.

Birds observed on the Keys between Miami and the Tortugas.

——— Mourning warbler (*Oporornis philladelphia*) in Florida.

Auk, 31, No. 1, Jan., 1914, p. 103.

Records the mourning warbler for the first time in the State of Florida.

BEEBE, C. WILLIAM. Preliminary pheasant studies.

Zoologica, 1, No. 15, Apr., 1914, pp. 261-285.

Notes on thirteen genera of pheasants, based on the author's studies in various museums.

CHAPMAN, FRANK M. Diagnoses of apparently new Colombian birds, 2.

Bull. Amer. Mus. Nat. Hist., 33, Art. 12, Mar. 19, 1914, pp. 167-192, pl. 13 (map of s. w. Colombia).

The following species and subspecies are described as new, and their relationships with previously known forms are fully discussed: *Ortalis columbiana cauca*, *Porphyrio melanops bogotensis*, *Fulica americana columbiana*, *Ixobrychus exilis bogotensis*, *Stenopis cayennensis monticola*, *Formicarius analis connectens*, *Craspedoprion pacificus*, *C. equinoctialis flavus*, *Euscarthmus septentrionalis*, *Mionectes olivaceus pallidus*, *Camptostoma cauca*, *Pitangus sulphuratus caucensis*, *Pheugopedius mystacalis amaurogaster*, *Henicorhina leucophrys brunneiceps*, *Planesticus cauca*, *Saltator atripennis caniceps*, *Myospiza*

CHAPMAN, FRANK M.—Continued.

cherriet, *Arremonops cinerosus*, *inexpectata*, *Atlapetes fusco-olivaceus*, *A. pallidinuchus obscurior*, *Coccyzus mexicanus caucæ*, *Tangara guttata tolma*, *T. aurulenta occidentalis*, *T. florida auriceps*, *Chlorospingus flavigularis marginatus*, *Ostinops sin-cipitallæ neglectus*, *Agelaius ioterocephalus bogotensis*, and *Icterus hondæ*.

CLARK, AUSTIN HOBART. A new race of the mandarin duck from southern Japan.

*Proc. Biol. Soc. Wash-
ington*, 27, May 11,
1914, p. 87.

Act galericulata brunneascens
is diagnosed as new.

CLARK, HUBERT LYMAN. Anatomical notes on *Todus*, *Oxyruncus* and *Spin-dalis*.

Auk, 30, No. 3, July,
1913, pp. 402-406.

Notes on the anatomy of
three tropical American genera
of birds.

GEE, N. GIST. (See under Lacy I. Moffett.)

HOWELL, ARTHUR H. Descriptions of two new birds from Alabama.

*Proc. Biol. Soc. Wash-
ington*, 26, Oct. 23,
1913, pp. 199-202.

Corvus brachyrhynchos paulus
and *Pipilo erythrophthalmus can-
aster* are described as new, and
the type locality of *Corvus b.
brachyrhynchos* is fixed as the
vicinity of Boston, Mass.

MEARNS, EDGAR A. Descriptions of three new African weaver-birds of the genera *Estrilda* and *Granatina*.

*Smithsonian Misc.
Colls.*, 61, No. 9,
July 31, 1913, pp.
1-4.

Estrilda rhodopyga polka, *E. r.
hypochra*, and *Granatina tanth-
inogastra roosevelti* are new
forms.

— Descriptions of four new African thrushes of the genera *Planesticus* and *Geocichla*.

*Smithsonian Misc.
Colls.*, 61, No. 10,
Aug. 11, 1913, pp.
1-5.

MEARNS, EDGAR A.—Continued.

The new forms are *Planesti-
cus helleri*, *P. olivaceus polius*,
Geocichla plaggia keniensis, and
G. gurneyi raineyi.

— Descriptions of six new African birds.

*Smithsonian Misc.
Colls.*, 61, No. 11,
Aug. 30, 1913, pp.
1-5.

The following new forms are
described: *Cisticola robusta
abaya*, *C. r. tana*, *C. subrufoca-
pilla bodessa*, *C. s. frieki*, *C.
natalensis nilotica*, and *Pyrome-
lana flammiceps changamvensis*.

— Descriptions of five new African weaver-birds of the genera *Othyphantes*, *Hypargos*, *Aldemosyne*, and *Lagonosticta*.

*Smithsonian Misc.
Colls.*, 61, No. 14,
Sept. 20, 1913, pp.
1-5.

Othyphantes frieki, *Hypargos
niveoguttatus macrospilotus*,
Aldemosyne inornata, *A. cantans
meridionalis*, and *Lagonosticta
rubricata frieki* are designated
as new.

— Descriptions of ten new African birds of the genera *Pogonocichla*, *Cossypha*, *Bradypterus*, *Sylvietta*, *Melaniparus* and *Zosterops*.

*Smithsonian Misc.
Colls.*, 61, No. 20,
Nov. 29, 1913, pp.
1-8.

Descriptions of the following
new subspecies are given: *Pogo-
nocichla cucullata helleri*, *Cos-
sypha natalensis gurguensis*, *C.
n. intensa*, *Bradypterus balaeu-
lus fraterculus*, *Sylvietta whythi
abayensis*, *S. leucophrys keni-
ensis*, *S. brachyura tavetensis*,
Melaniparus afer frieki, *Zoste-
rops senegalensis frieki*, and *Z.
virens gurguensis*.

— Descriptions of eight new African bulbuls.

*Smithsonian Misc.
Colls.*, 61, No. 25,
Feb. 16, 1914, pp.
1-6.

*Phyllastrephus strepitans
frieki*, *P. cerviniventris lön-
nbergi*, *P. placidus keniensis*,
Chlorocichla flaviventris meru-

MEARNS, EDGAR A.—Continued.

ensis, *Andropadus fricki*, *A. f. kitungensis*, *Steigidocichla latirostris pallida*, and *S. l. saturata* are described as new.

MOFFETT, LACY I., and N. GIST GEE.
Check list of birds of the lower Yangtse valley from Hankow to the sea. [With an appendix by Chas. W. Richmond.]

Journ. N. China Branch, Roy. Asiatic Soc., 44, 1913, pp. 113-143, 143a-143f.

A briefly annotated list of birds of the region indicated in the title.

OBERHOLSER, HARRY C. Four new birds from Newfoundland.

Proc. Biol. Soc. Washington, 27, Mar. 20, 1914, pp. 43-54.

Four new subspecies are described, under the names *Dryobates pubescens microleucus*, *Bubo virginianus neochorus*, *Perisoreus canadensis sanfordi*, and *Pipilo erythrophthalmus eschatus*. The type locality of *Pipilo c. leucura* is fixed as the city of Quebec, Canada.

——— A monograph of the genus *Chordellus* Swainson, type of a new family of goatsuckers.

Bull. U. S. Nat. Mus., No. 86, Apr. 6, 1914, pp. 1-vii, 1-123, pls. 1-6.

A monographic treatment of nighthawks (genus *Chordellus*), for which the family Chordellidae is proposed. *Chordellus virginianus howelli*, *C. acutipennis micromeris*, *C. a. inferior*, *C. r. pectoralis xyostictus*, and *C. r. zaleucus* are new subspecies. *Setochoalctes* is a new genus for the whippoorwills of the *Caprimulgus vociferus* group.

——— *Poocetes gramineus confinis* in Louisiana.

Proc. Biol. Soc. Washington, 27, May 11, 1914, p. 101.

Record of this subspecies from Louisiana.

OGILVIE-GRANT, W. R. On a small collection of birds from Henderson Island, South Pacific.

Ibis, ser. 10, 1, No. 3, July, 1913, pp. 348-350, pl. 9.

OGILVIE-GRANT, W. R.—Continued.

An account of 10 species collected on Henderson Island, with extended remarks on *Ptilopus insularis* and its ally, *P. coralensis*.

RICHMOND, CHAS. W. (See under Lacy I. Moffett and N. Gist Gee.)

RIDGWAY, ROBERT. The birds of North and Middle America: a descriptive catalogue of the higher groups, genera, species, and subspecies of birds known to occur in North America, from the Arctic lands to the Isthmus of Panama, the West Indies and other islands of the Caribbean Sea, and the Galapagos Archipelago. Pt. 6. Family Picidae—The Woodpeckers. Family Caprimulgidae—The Barbets. Family Ramphastidae—The Toucans. Family Buccconidae—The Puff Birds. Family Galbulidae—The Jacamars. Family Alcedinidae—The Kingfishers. Family Todidae—The Todies. Family Momotidae—The Motmots. Family Caprimulgidae—The Goatsuckers. Family Nyctibidae—The Potoos. Family Tytonidae—The Barn Owls. Family Bubonidae—The Eared Owls.

Bull. U. S. Nat. Mus., No. 50, pt. 6, Apr. 8, 1914, pp. i-xx, 1-882, pls. 1-36.

The present volume contains the suborders Picariae, Anso-dactylae, Nycticoracidae and Strigidae, embracing the 12 families above enumerated and 76 genera, with 369 species and subspecies, and additional extralimital forms described in the keys. *Hypnelus ruficollis coloratus*, *Otus asio hasbroucki*, *O. a. brewsteri*, *Pulsatrix perspicillata saturata*, *Micropallas whitneyi sanfordi* and *M. w. idoneus* are described as new. *Ptiloporus* is a new genus of Galbulidae.

RILEY, J. H. Note on *Anas cristata* Gmelin.

Proc. Biol. Soc. Washington, 27, May 11, 1914, p. 100.

The generic name *Lophonetta* is proposed for this species.

SHUFELDT, R. W. On the patella in the Phalacrocoracidae.

Proc. Zool. Soc. London, pt. 3, Sept., 1913, pp. 393-402, pl. 61.

Notes on the patella in the cormorant family.

SWARTH, HARRY S. The status of Lloyd's Bush-tit as a bird of Arizona.

Auk, 30, No. 3, July, 1913, pp. 399-401.

From an examination of ample material, the writer concludes that *Psaltiriparus melanotis lloydi* does not occur in Arizona, and that *P. santaritæ* is a synonym of *P. plumbeus*.

— A study of a collection of geese of the *Branta canadensis* group from the San Joaquin Valley, California.

Univ. Cal. Pub. Zool., 12, No. 1, Nov. 20, 1913, pp. 1-24, pls. 1, 2, figs. A-H.

Three forms of the *Branta canadensis* group are found to occur in California, *B. o. canadensis* being the breeding subspecies. The author finds no definite records of *B. o. occidentalis* for the State.

TODD, W. E. CLYDE. Preliminary diagnoses of apparently new birds from tropical America.

TODD, W. E. CLYDE—Continued.

Proc. Biol. Soc. Washington, 26, Aug. 8, 1913, pp. 169-174.

The following forms are described as new: *Catamania oreophila*, *Tanagra rufoventris colorata*, *Gymnostinops yuracares caurensis*, *Basileuterus auricapillus viridescens*, *Hemispingus basilicus*, *Pheugopedius genibarbis bolivianus*, *Planesticus olivater sanctæ-martæ*, *Todirostrum schistaceiceps griseolum*, *Rhynchocyclus flaviventris aurulentus*, *Elaenia boliviana*, *Leptopogon amaurocephalus diversus*, *Myiarchus* (?) *fortirostris*, *Orodynastes striatocollis columbianus*, *Microtricus brunneicapillus dilutus*, *Thamnophilus dollatus heteroleucus*, *Ramphocœnus melanurus pallidus*, *Hypocnemis flaveacens humilis*, *Myrmeciza zeledoni affinis*, *M. schistacea*, *Hylophylax consobrina*, *Scelateria nævia diaphora*, *Xenops genibarbis neglectus*, *Xenicopsia striolatus*, *Dendrocolaptes polyzonus*, *Picolaptes bivittatus certhiolus*, *Phæthornis striularis ignobilis*, *Agrythia hollandi*, *Saucerottia tobaci monticola*, *Metalura tyrianthina oreopola*, *Microstilbon* (new genus), *M. insperatus*, *Electron platyrhynchus medianum*, *Pyrrhura viridicasta*, and *Rallus longirostris leucophæus*.

REPTILES AND BATRACHIANS.

RUTHVEN, ALEXANDER G. Description of a new species of *Basiliscus* from the region of the Sierra Nevada de Santa Marta, Colombia.

Proc. Biol. Soc. Washington, 27, Feb. 2, 1914, pp. 9-12, pl. 1.

Basiliscus barbouri is described as new, and a paratype of the species was presented to the Museum.

— Description of a new engystomatid frog of the genus *Hypopachus*.

Proc. Biol. Soc. Washington, 27, May 11, 1914, pp. 77-79.

Hypopachus pearsei is described as new, and a paratype was presented to the Museum.

THOMPSON, JOSEPH C. The variation exhibited by mainland and island specimens of the Hibakari snake, *Natrix vibakari* (Boie).

THOMPSON, JOSEPH C.—Continued.

Proc. U. S. Nat. Mus., 46, No. 2020, Sept. 30, 1913, pp. 157-160.

Shows that the specimens from the Japanese Islands have more numerous ventrals than those from the opposite mainland. One-half of the specimens examined are in the National Museum.

— The variations exhibited by *Thamnophis ordinoides* (Baird and Girard), a gartersnake inhabiting the Sausalito Peninsula, California.

Proc. U. S. Nat. Mus., 47, No. 2051, May 16, 1914, pp. 351-360.

A minute study of variation in 50 snakes from a limited habitat. Nearly the entire material was presented by the author to the National Museum.

FISHES.

FISK, MARY. A review of the fishes of the genus *Osmerus* of the California coast.

Proc. U. S. Nat. Mus.,
46, No. 2027, Nov.
25, 1913, pp. 291-
297, 1 fig.

GILBERT, CHARLES H. Two cottoid fishes from Monterey Bay, California.

Proc. U. S. Nat. Mus.,
47, No. 2049, May
20, 1914, pp. 135-
137, pl. 11.

JORDAN, DAVID STARR, and WILLIAM FRANCIS THOMPSON. Notes on a collection of fishes from the Island of

JORDAN, DAVID STARR, and WILLIAM FRANCIS THOMPSON—Continued.

Shikoku in Japan, with a description of a new species, *Gnathypops lyonis*.

Proc. U. S. Nat. Mus.,
46, No. 2011, Aug.
23, 1913, pp. 65-72,
figs. 1-5.

SNYDER, JOHN OTTERBEIN. The fishes of the streams tributary to Monterey Bay, California.

Bull. Bur. Fisheries,
32, No. 776, July 24,
1913, pp. 49-72, pla.
19-24, figs. 1-3.

MOLLUSKS.

BAERTSCH, PAUL. Observations on mollusks among the Bahama Islands and the Florida Keys.

Smithsonian Misc.
Colls., 60, No. 30,
July 3, 1913, pp. 58-
62, figs. 65-67.

Calls attention to a collecting trip to the Bahama Islands and the Florida Keys, and the planting of Bahama Cerions upon the Florida Keys.

——— New mollusks from the Bahama Islands.

Proc. U. S. Nat. Mus.,
46, No. 2016, Nov.
29, 1913, pp. 107-
109, pl. 3.

A report on a collection made by Mr. G. W. Pepper, of Providence, Rhode Island, in the Bahama Islands, in which the following new species are described: *Cerion (Strophlops) pepperi*, *Cepolis maynardi elevata*, *Leptinaria bahamensis*, *Varicella gracillima bahamensis*.

——— Report of results of the planting of Bahama Cerions on the Florida Keys.

Carnegie Inst. of
Washington, Year
Book, No. 12, 1913,
pp. 169-172.

A detailed account of the results obtained in the breeding experiments of the Bahama Cerions planted on the Florida Keys a year ago.

BAERTSCH, PAUL. (See also under William Healey Dall.)

DALL, WILLIAM HEALEY. New species of the genus *Mohnia* from the North Pacific.

Proc. Acad. Nat. Sci.
Phila., Aug. 19,
1913, pp. 501-504.

The following new species are described: *Mohnia robusta*, *M. corbis*, *M. vernalis*, *M. siphonoides*, *M. exquisita*, *M. ducetoides*, *M. japonica*, *M. kurilana*, *M. hondoensis*. They are from Bering Sea and North Japan, dredged by the U. S. Fisheries Steamer Albatross, and the types are in the National Museum.

——— The Belgian Antarctic Expedition.

Science (n. s.), 38, No.
988, Dec. 5, 1913, pp.
819, 820.

A review of the results of the voyage in the lines of Petrography and Tunicata.

——— A new genus of Trochidæ.

Nautilus, 27, No. 8,
Dec., 1913, pp. 86,
87.

The new genus and species *Vetulonina jeffreysi* and *V. galapagana* are described, with the latter as the generic type. The specimens are in the National Museum.

DALL, WILLIAM HEALEY. Note on *Clementia obliqua* Jukes-Brown.

Nautilus, 27, No. 9,
Jan., 1914, pp. 103,
104.

Proof is given that the above species had been named *suddiaphana* by Carpenter in 1864, and that it is a native of the northwest coast of America and not of Porto Rico, as supposed. It is referable to the genus *Marci* of the Veneridae.

— Notes on some West American Pectens.

Nautilus, 27, No. 11,
Mar., 1914, pp. 121,
122.

The group as represented on the west coast of North America is reviewed. *Pecten exscavatus* of Valenciennes, not Anton, is renamed *P. oataractes*.

— Notes on West American oysters.

Nautilus, 28, No. 1,
May, 1914, pp. 1-3.

The group is reviewed. *O. fisheri* is proposed for *O. jacobæ* Rochebrune, not Linnaeus. *O. serra* and *O. tubulifera* from the tropical fauna are described as new. The material on which the review is based is in the National Museum.

— The life of the mollusca.

Science (n. s.), 39, No.
1018, June 19, 1914,
pp. 910, 911.

A review of the volume so entitled by B. B. Woodward.

— Notes on some northwest coast *Acmæas*.

Nautilus, 28, No. 2,
June, 1914, pp. 13-
15.

Data derived from a revision of the species in the collection of the National Museum. New

DALL, WILLIAM HEALEY—Continued.

species indicated are: *Acmæa olympica* Dall, *A. emydia* Dall, *A. parallela* Dall, and *A. semirubida* Dall. Important changes in the coast line are suggested by the present distribution of the temperate and tropical species of the genus.

— and PAUL BARTSCH. New species of mollusks from the Atlantic and Pacific coasts of Canada.

Victoria Mem. Mus.
Bull. No. 1, Oct. 23,
1913, pp. 139-146,
pl. 10.

Descriptions of species dredged by the staff of the Dominion Geological and Natural History Survey. The types and cotypes are in the Victoria Memorial Museum and the U. S. National Museum. *Mangilia crebricostata* Carpenter, known only from a unique and defective specimen, is redescribed from better material; and the following new forms are named: *Turbonilla (Pyrgiscus) hecuba*, *Odostomia (Eulca) cassandra*, *O. (E.) cypria*, *O. (E.) hypatia*, and *O. (E.) skidegatensis*. All except the first mentioned are from the Queen Charlotte Islands, British Columbia.

PILSBRY, HENRY A. (assisted by C. MONTAGUE COOKE). Manual of Conchology structural and systematic, with illustrations of the species. Vol. 22. Achatinellidae.

Published by the Conchological Department, Acad. Nat. Sci., Phila., 1912-14, 8vo., pp. i-lviii, 1-428, pls. 1-63.

This volume is based in part on the collection of Achatinellidae in the National Museum, which was lent to Dr. Pilsbry for study.

PROTOTRACHEATA.**CLARK, AUSTIN HOBART.** Piccole note su degli onychophora.

Zool. Anzeiger, 42, No.
6, July 18, 1913, pp.
253-255.

Records *Peripatus (Epiperipatus) simoni* from Marajo, Brazil; *P. (E.) trinidadensis* from Tobago, B. W. I., with a suggestion that the specimen

CLARK, AUSTIN HOBART—Continued.

from that island may prove distinct, in which case the author proposes the name *P. (E.) broadwayi* for this form; *P. (P.) juanensis* from Vieques, P. R., and *Peripatoides novæzealandiæ* from New Zealand. The last three are in the National Museum.

CLARK, AUSTIN HOBART. Sopra una piccola collezione di Onychophora da Australia.

Zool. Anzeiger, 43, No. 7, Jan. 7, 1914, pp. 316-319.

Based upon a small collection of onychophores sent to the author by Prof. R. Hamlyn Harris, Director of the Queensland Museum, Brisbane. Three species are represented: *Peripatoides gilesti*, *P. orientalis* and *P. oviparus*. Duplicates of the last named are in the National Museum.

CLARK, AUSTIN HOBART. Notes on some specimens of a species of Onychophore (*Oroperipatus corradoi*) new to the fauna of Panama.

Smithsonian Misc. Colls., 63, No. 2, Feb. 21, 1914, pp. 1, 2.

Oroperipatus corradoi, previously known only from Ecuador, is here recorded from Ancon, Canal Zone.

INSECTS.

BARBER, HERBERT S. The remarkable life-history of a new family (Micro-malthidæ) of beetles.

Proc. Biol. Soc. Washington, 26, Aug. 8, 1913, pp. 185-190, pl. 4.

—— A new species of Phengodes from California (Coleoptera).

Can. Ent., 45, No. 10, Oct. 13, 1913, pp. 343, 344.

Describes a new species, *Phengodes bellus*, of which the paratype is in the National Museum.

—— Notes on a wood-boring syrphid.

Proc. Ent. Soc. Washington, 15, No. 4, Jan. 22, 1914, pp. 151, 152.

Temnostoma bombylans was reared and a comparison of the various larvæ shows great differences in the armature of the spiracles, from which it appears that about four species are mixed under the single specific name.

—— Notes on Rhipidandri. (Coleoptera)

Proc. Ent. Soc. Washington, 15, No. 4, Jan. 22, 1914, pp. 188-193.

Describes a new species of the genus *Eutomus* from Panama and gives notes on the other species in the collection of the National Museum.

—— On interspecific mating in Phengodes and inbreeding in *Eros*. (Coleoptera).

Proc. Ent. Soc. Washington, 16, No. 1, Mar. 23, 1914, pp. 32-34.

BUSCK, AUGUST. New Microlepidoptera from British Guiana.

Insecutor Inscitiae Menstruus, 1, No. 7, July 21, 1913, pp. 88-92.

Describes eight new species belonging to several genera.

—— A new *Acreclophus* from British Guiana.

Insecutor Inscitiae Menstruus, 1, No. 9, Sept. 15, 1913, p. 117.

—— Two Microlepidoptera injurious to chestnut.

Proc. Ent. Soc. Washington, 15, No. 3, Oct. 2, 1913, pp. 102-104, 1 fig.

—— Seven new Microlepidoptera from Mexico.

Insecutor Inscitiae Menstruus, 1, No. 11, Nov. 29, 1913, pp. 140-143.

—— Note on a barkmining lepidopteron of the genus *Marmara Clemens*.

Proc. Ent. Soc. Washington, 15, No. 4, Jan. 22, 1914, p. 150.

Marmara fulgidella was reared from oak, the larvæ exhibiting the typical form for species of this genus.

—— A new *Gracillaria* on Azalea.

Insecutor Inscitiae Menstruus, 2, No. 1, Jan. 31, 1914, pp. 1, 2.

Describes one new species which possibly may have been imported from Europe.

—— The chestnut bastminer.

Insecutor Inscitiae Menstruus, 2, No. 1, Jan. 31, 1914, pp. 3, 4, 1 fig.

BUSCK, AUGUST—Continued.

Describes *Ectademia phleophaga* and gives notes on the habits of the larva.

Two Microlepidoptera on *Thurberia thespesioides*.

Proc. Ent. Soc. Washington, 16, No. 1, Mar. 23, 1914, pp. 30, 31.

Describes *Bucculatrix thurberiella*, new species, from Arizona.

Seven new species of *Ethmia* from tropical America.

Insecutor Inscitiae Menstruus, 2, No. 4, Apr. 24, 1914, pp. 53–57.

New genera and species of Microlepidoptera from Panama.

Proc. U. S. Nat. Mus., 47, No. 2043, Apr. 30, 1914, pp. 1–67.

Describes the new genera *Fortinea*, *Atoponeura*, *Belthea*, *Beactia*, *Galtica*, *Aroga*, *Pavolechia*, *Promenesta* in the Gelechiidae; *Hamadera*, *Costoma*, *Rhindoma*, *Ancipita* in the Cecophoridae, and *Harmacлона* in the Tineidae, together with 123 new species.

CAUDELL, A. N. Some Bromeliadicolous Blattidae from Mexico and Central America.

Insecutor Inscitiae Menstruus, 2, No. 5, June 8, 1914, pp. 76–80.

Describes three new species.

The egg of *Pseudosermyle truncata* Caudell.

Proc. Ent. Soc. Washington, 16, No. 2, June 12, 1914, p. 96, 1 fig.

COCKERELL, T. D. A. New parasitic Hymenoptera of the genus *Eiphosoma*.

Proc. U. S. Nat. Mus., 46, No. 2010, Aug. 23, 1913, pp. 61–64.

Describes four new species and gives a table to the species occurring in North and Central America.

Pseudosmaris bred in California.

Proc. Ent. Soc. Washington, 15, No. 3, Oct. 2, 1913, p. 107.

Describes one new subspecies.

COCKERELL, T. D. A. Bees visiting *Thurberia*.

Proc. Ent. Soc. Washington, 16, No. 1, Mar. 23, 1914, pp. 31, 32.

Describes *Melissodes thurberiae* and *Perdita punctifera*, and records two other species from Arizona.

Names applied to the North American bees of the genera *Lithurgus*, *Anthidium*, and allies.

Proc. U. S. Nat. Mus., 47, No. 2045, May 7, 1914, pp. 87–94.

CRAWFORD, DAVID L. A contribution toward a monograph of the homopterous insects of the family Delphacidae of North and South America.

Proc. U. S. Nat. Mus., 46, No. 2041, Mar. 4, 1914, pp. 557–640, pls. 44–49.

Describes the new genera *Lepticus*, *Eucanyra*, *Liburniella*, *Bakerella*, together with 35 new species and 8 new varieties. The types of 15 new species and 4 new varieties and paratypes of 2 new species are in the National Museum.

A monograph of the jumping plant-lice or Psyllidae of the New World.

Bull. U. S. Nat. Mus., No. 85, June 3, 1914, pp. 1–186, pls. 1–30.

Describes the new genera *Aphalaroida*, *Heteropsylla*, *Leuronota*, *Hemitrioza*, *Uhleria*, *Tetragonocephala*, *Katacephala*, *Mitropsylla* and the new subgenus *Anomocera*, together with 62 new species and 7 new varieties, and proposes one new name. The types of 33 of the new species and of 6 of the new varieties are in the National Museum.

CRAWFORD, J. C. Some bees from New Brunswick, with description of a new species of *Heriades*.

Can. Ent., 45, No. 8, Aug. 5, 1913, pp. 269–273.

Another red species of the genus *Oligosita*.

Can. Ent., 45, No. 9, Sept. 12, 1913, pp. 311, 312.

CRAWFORD, J. C. Descriptions of new Hymenoptera, No. 8.

Proc. U. S. Nat. Mus.,
46, No. 2029, Dec.
23, 1913, pp. 343-
352, figs. 1-8.

Describes *Perilampidae*, *Xenomymar* and *Neomymar* (new genera) and ten new species, mostly from Trinidad, in the Chalcidoidea and three new species in the Serphidoidea.

— A revision of the braconid genus *Urosigalphus*.

Insecutor Inscitiae Menstruus, 2, No. 2, Feb.
28, 1914, pp. 22-27.

Gives a table of all the known species and describes eight new species, all from the United States.

— Two new parasitic Hymenoptera from Arizona.

Proc. Ent. Soc. Washington, 16, No. 1,
Mar. 23, 1914, p. 29.

— Three new Hymenoptera.

Insecutor Inscitiae Menstruus, 2, No. 3, Mar.
30, 1914, pp. 36-38.

Describes three Chalcidoidea from the United States.

— Hymenoptera, superfamilies Apoidea and Chalcidoidea, of the Yale-Dominican Expedition of 1913.

Proc. U. S. Nat. Mus.,
47, No. 2048, Apr.
30, 1914, pp. 131-
184.

Describes four new species of bees.

— The species of *Perilampidae* of America north of Mexico.

Proc. Ent. Soc. Washington, 16, No. 2,
June 12, 1914, pp.
69-76.

Describes twelve new species, giving tables of the species in the region discussed.

— New parasitic Hymenoptera from British Guiana.

Proc. Ent. Soc. Washington, 16, No. 2,
June 12, 1914, pp.
85-88.

Describes six new species of Chalcidoidea and Serphidoidea.

CUSHMAN, R. A. A new species of the Braconid genus *Phanerotoma* Wesmael.

Proc. Ent. Soc. Washington, 16, No. 2,
June 12, 1914, pp.
78, 79.

DYAR, HARRISON G. The species of *Calyptocome* Warren.

Insecutor Inscitiae Menstruus, 1, No. 7, July
21, 1913, pp. 79-87.

Gives a key to the American species and describes thirteen new species.

— Results of the Yale Peruvian Expedition of 1911. Lepidoptera.

Proc. U. S. Nat. Mus.,
45, No. 2006, July
22, 1913, pp. 627-
649.

Describes forty new species, two new subspecies and the genus *Altmanas* (family Arctiidae). In all 242 species are listed.

— The separation of some species of Lineodes.

Insecutor Inscitiae Menstruus, 1, No. 8, Aug.
23, 1913, pp. 94-96,
pl. 2.

Gives a key to some of the American species and describes three new species.

— Descriptions of six new Pyralidae from British Guiana.

Insecutor Inscitiae Menstruus, 1, No. 8,
Aug. 23, 1913, pp.
98-100.

— A note on *Diathrausta nerinalis* Walker.

Insecutor Inscitiae Menstruus, 1, No. 8,
Aug. 23, 1913, pp.
100-102.

Describes four new forms of this species.

— Notice of volume II, No. 4, of Barnes and McDunnough's "Contributions to the Natural History of the Lepidoptera of North America."

Insecutor Inscitiae Menstruus, 1, No. 8,
Aug. 23, 1913, pp.
102-106.

DYAR, HARRISON G.—Continued.

Gives the synonymy of many of the species described as new in this article and describes one new species from Cuba.

——— Note on the American silvery species of *Argyria*.

Insecutor Inscittia Menstruus, 1, No. 9, Sept. 15, 1913, pp. 111-114.

Gives a key to the American species which have silvery white ground color and describes seven new species.

——— An additional note on *Calypso* come.

Insecutor Inscittia Menstruus, 1, No. 9, Sept. 15, 1913, p. 120.

——— Notes on the species of *Galasa* Walker.

Insecutor Inscittia Menstruus, 1, No. 10, Oct. 30, 1913, pp. 125-129.

Gives a key to the American species and describes five as new.

——— A new pyralid from Newfoundland.

Insecutor Inscittia Menstruus, 1, No. 11, Nov. 29, 1913, p. 139.

Describes *Pyrausta beddecki*, sp. nov.

——— Two new Phycitinae from Montana.

Insecutor Inscittia Menstruus, 2, No. 1, Jan. 31, 1914, p. 2.

——— Four new Lepidoptera from British Guiana.

Insecutor Inscittia Menstruus, 2, No. 1, Jan. 31, 1914, pp. 4-6.

Describes three hesperids and one liparid.

——— A note on *Phobolusia* and *Melanomma*.

Insecutor Inscittia Menstruus, 2, No. 1, Jan. 31, 1914, pp. 8-10.

Gives a table of the North American species of the genus *Phobolusia* and describes one new species.

DYAR, HARRISON G. The pericopid larvae in the National Museum.

Insecutor Inscittia Menstruus, 2, No. 4, Apr. 24, 1914, pp. 62-64.

Gives descriptions of the larvae of various species, together with the references to the places of publication where larvae of species in these genera have been described previously.

——— The noctuid moths of the genera *Palindia* and *Dyomyx*.

Proc. U. S. Nat. Mus., 47, No. 2048, May 7, 1914, pp. 95-116.

Sixteen new species are described in the genus *Eulepidotis* (*Palindia*) and one new species in *Dyomyx*. Tables of the species of both genera are given.

——— Report on the Lepidoptera of the Smithsonian Biological Survey of the Panama Canal Zone.

Proc. U. S. Nat. Mus., 47, No. 2050, May 20, 1914, pp. 139-350.

This paper treats of the Macrolepidoptera and describes the new genera *Otaconstesia* in the Nymphalidae; *Gau-deator*, *Palaeozana*, *Serincta*, *Abrochocis*, *Geridiopsis*, *Anane*, *Dixanene*, *Saozana*, in the Lithosiidae; *Abilita*, *Dymba*, *Aræopterella*, *Charoblemma*, *Gelenipsa*, *Via*, *Prodosta*, *Egchiretas*, *Pogopus*, *Cola*, *Hopothia*, *Crambophila*, and *Tineocephala* in the Noctuidae; *Unduzia* in the Megalopygidae; *Ca* in the Dalceridae; *Parambia*, *Homophysodes*, *Escandia*, *Eobrena*, *Gephyrella*, *Restidia*, *Zamanna*, *Craftsia*, *Chenevadia*, *Torotambe*, *Deopteryx*, *Repliota*, *Ocoba*, *Passelgia*, *Conotambe*, *Dismidia*, *Chalcoölopsis*, *Tadoga*, *Genopaschia*, *Pocopaschia*, *Stenopaschia*, *Glossopaschia*, *Difundella*, *Anypsiopyla*, *Drescoma*, *Zamagria*, *Cabima*, *Chorrera*, *Homalopalpta*, *Matilla*, *Anthopteryx*, *Bema*, *Reimts*, *Moerbes*, *Harnocha*, *Eurythmasis*, *Harnochina*, *Hypermesocinta*, *Calamophleps*, *Comotia*, *Strymas*, *Microphycita*, *Microphestia*, *Micromesocinta*, *Tintinnia* and *Schenectadia* in the Pyralidae; together

DYAR, HARRISON G.—Continued.

with 474 new species, 6 new subspecies and 5 new varieties. Thirteen of the new species and one of the new varieties described are extralimital, coming from South America.

— and FREDERICK KNAB. New mosquitoes from Peru.

Insecutor Inscitiae Menstruus, 2, No. 4, Apr. 24, 1914, pp. 58-62.

Describes the new genus *Phalangomyia* and two new species.

FOLSOM, JUSTUS W. North American spring-tails of the subfamily Tomocerinae.

Proc. U. S. Nat. Mus., 46, No. 2037, Dec. 30, 1913, pp. 451-472, pls. 40, 41, figs. 1-10.

Describes two new species and one new variety, cotypes of which have been deposited in the National Museum.

GAHAN, A. B. New Hymenoptera from North America.

Proc. U. S. Nat. Mus., 46, No. 2035, Dec. 30, 1913, pp. 431-443, pl. 89.

Includes descriptions of *Euphoriana* and *Eumicrosoma*, new genera of the families Braconidae and Scellionidae respectively, and of 13 new species, mostly of the superfamily Chalcidoidea.

HEINRICH, CARL. Notes on some forest Coleophora with descriptions of two new species.

Proc. Ent. Soc. Washington, 16, No. 2, June 12, 1914, pp. 66-69.

HOWARD, L. O. Concerning some Aphelininae.

Proc. Ent. Soc. Washington, 16, No. 2, June 12, 1914, pp. 79-85, 1 fig.

Describes the new genus *Dirphys* and seven new species, and gives a table of the species of the genus *Phycus*.

HYSLOP, J. A. Description of a new species of Corymbites from the Sonoran zone of Washington State.

HYSLOP, J. A.—Continued.

Proc. Biol. Soc. Washington, 27, Mar. 20, 1914, pp. 69, 70.

KENNEDY, CLARENCE HAMILTON. Notes on the Odonata, or dragonflies, of Bumping Lake, Washington.

Proc. U. S. Nat. Mus., 46, No. 2017, Sept. 30, 1913, pp. 111-126, 58 figs.

KNAB, FREDERICK. New moth-flies (Psychodidae) bred from Bromeliaceae and other plants.

Proc. U. S. Nat. Mus., 46, No. 2015, Aug. 23, 1913, pp. 103-106.

Describes four new species of the genus *Psychoda*, bred from water found at the bases of the leaves of *Bromeliaceae* and in flower bracts of *Calathea*.

— A new *Heterostylum* from Mexico.

Insecutor Inscitiae Menstruus, 1, No. 9, Sept. 15, 1913, pp. 110, 111.

— A new Cuban Chaoborus.

Insecutor Inscitiae Menstruus, 1, No. 10, Oct. 30, 1913, pp. 121, 122.

— A new American Phlebotomus.

Insecutor Inscitiae Menstruus, 1, No. 11, Nov. 29, 1913, pp. 135-137, 1 fig.

Describes a new species, *P. atroclavatus*, from Trinidad.

— Gad-flies (Tabanidae) of the genus *Stibasoma*.

Proc. U. S. Nat. Mus., 46, No. 2033, Dec. 23, 1913, pp. 407-412.

Includes a key to the American members of this genus and description of one new species.

— A note on some American Simuliidae.

Insecutor Inscitiae Menstruus, 1, No. 12, Dec. 31, 1913, pp. 154-156.

The new name *Simulium lutzii* is proposed for *S. exiguum* Lutz, not of Roubaud.

KNAB, FREDERICK. A new Pantophthalmus.

Insecutor Inscitiae Menstruus, 2, No. 2, Feb. 28, 1914, pp. 27-29.

Describes *P. fastuosus*, the larvæ of which bore in trunks of trees in Trinidad.

— On the genus *Cryptochaetum*.

Insecutor Inscitiae Menstruus, 2, No. 3, Mar. 30, 1914, pp. 33-36.

Gives a table of certain species and describes *C. curtipenne*, from Ceylon.

— Simuliidæ de Chile Septentrional.

Anales de Zoología Argentina, 1, No. 1, Apr., 1914, pp. 17-22, pl. 1.

Includes description of one new species.

— Simuliidæ of Peru.

Proc. Biol. Soc. Washington, 27, May 11, 1914, pp. 81-86.

— Ceratopogoninæ sucking the blood of caterpillars.

Proc. Ent. Soc. Washington, 16, No. 2, June 12, 1914, pp. 63-66.

Gives notes on the blood-sucking habits of these flies and describes two new species.

— (See also under Harrison G. Dyar.)

MALLOCH, J. R. A new species of Agromyzidæ (Diptera).

Insecutor Inscitiae Menstruus, 1, No. 9, Sept. 15, 1918, pp. 109, 110.

Describes *Milochia orientalis* from the Island of Guam.

— A new species of *Simulium* from Texas.

Proc. Ent. Soc. Washington, 15, No. 3, Oct. 2, 1918, pp. 133, 134.

— Two new species of Borboridæ from Texas.

Proc. Ent. Soc. Washington, 15, No. 3, Oct. 2, 1918, pp. 135-137, 1 fig.

MALLOCH, J. R. A synopsis of the genera of Agromyzidæ, with descriptions of new genera and species.

Proc. U. S. Nat. Mus., 46, No. 2018, Dec. 6, 1913, pp. 127-154, pls. 4-6.

Gives keys to the subfamilies, tribes, genera and to the American species of some of the genera; describes *Paraleucoptis*, *Paramilochia* and *Euchlorops*, new genera; proposes *Paramadiza*, new name for *Madiza* of authors, not of Fallen; describes eleven new species.

— The genera of flies in the subfamily Botanoblinæ with hind tibial spur.

Proc. U. S. Nat. Mus., 46, No. 2024, Dec. 6, 1913, pp. 239-266, pls. 23, 24.

Gives keys to the four genera included and to the species of the genus *Hippelates*, ten of which are new; includes also descriptions of the new genera *Prohippелates* and *Pseudohippelates*.

— American black flies or Buffalo gnats.

U. S. Dept. Agr., Bur. Ent., Tech. Ser., No. 26, Apr. 6, 1914, pp. 1-82, pls. 1-6.

Describes the new genus *Parasimulium* and thirteen new species, types of twelve of them being in the National Museum; proposes *lutzii* n. n. for *minutum* Surcouf and Gonzales-Rincones, not of Lugger.

— Description of a new species of *Agromyza* from Porto Rico.

Proc. Ent. Soc. Washington, 16, No. 2, June 12, 1914, pp. 89, 90, 1 fig.

MARTINI, E. Some new American mosquitoes.

Insecutor Inscitiae Menstruus, 2, No. 5, June 8, 1914, pp. 65-76, pl. 2.

Three new species are described, cotypes of which have been deposited in the National Museum.

MORGAN, A. C. New genera and species of Thysanoptera, with notes on distribution and food plants.

Proc. U. S. Nat. Mus.,
46, No. 2008, Aug. 23,
1913, pp. 1-55, figs.
1-79.

Describes the new genera *Rhipiphorothrips*, *Microthrips*, and *Horistothrips*, nineteen new species, and one new variety, mostly from North America.

PAINE, JOHN HOWARD. A new genus of Mallophaga from African guinea fowl in the United States National Museum.

Smithsonian Misc. Coll., 61, No. 28,
Jan. 31, 1914, pp.
1-4, 1 fig.

Describes *Somaphantus lusus*, new genus and species, from specimens taken from *Numida pitlorhyncha*.

ROHWER, S. A. A new braconid from South America.

Proc. Ent. Soc. Washington, 15, No. 3, Oct.
2, 1913, p. 144.

— Notes on the feeding habits of two adult sawflies.

Proc. Ent. Soc. Washington, 15, No. 4,
Jan. 22, 1914, pp.
148, 149.

A female of *Tenthredella lineata* was seen eating an adult perlid, *Alloperla signata*; *Tenthredo arcuatus* was seen feeding on stamens of an umbelliferous plant.

— Two abnormally developed sawflies.

Proc. Ent. Soc. Washington, 15, No. 4,
Jan. 22, 1914, pp.
149, 150.

Records an abnormal female of *Xenopates terminalis* and a male of a species of the genus *Tenthredella*.

— Descriptions of new parasitic Hymenoptera.

Proc. Ent. Soc. Washington, 15, No. 4,
Jan. 22, 1914, pp.
180-188, 1 fig.

Describes the new genera *Stilbopoides* and *Helcostizidea* from the United States, and

ROHWER, S. A.—Continued.

five new species of Ichneumonidae, and two new species of Braconidae.

— Descriptions of two new genera of parasitic Hymenoptera.

Psyche, 21, No. 2,
April, 1914, pp. 79-
81, figs. 1, 2.

Describes the new genera *Anomopteris* and *Centistidea* and two new species of Braconidae.

SCHAUS, WILLIAM. New species of noctuid moths from tropical America.

Proc. U. S. Nat. Mus.,
46, No. 2089, Jan.
29, 1914, pp. 485-
549.

Describes the new genera *Oxytonidia*, *Colodes*, *Encruphion*, *Anorena*, *Ateneria*, *Sinosta*, *Neoptodes*, *Eromidia*, and *Polygnampia*, and 136 new species of the family Noctuidae, all except three having been taken by the author and Mr. J. Barnes in British, Dutch, and French Guiana.

SHANNON, R. C. *Epimecis wiltii* Cresson and its host.

Proc. Ent. Soc. Washington, 15, No. 4,
Jan. 22, 1914, p.
162.

The larva of this species is an external parasite of spiders.

— Feeding habits of *Phlebotomus vexator* Coq.

Proc. Ent. Soc. Washington, 15, No. 4,
Jan. 22, 1914, pp.
165, 166.

Observations tend to show that this species feeds normally upon reptiles rather than upon warm-blooded animals.

VIERECK, HENRY L. Descriptions of twenty-three new genera and thirty-one new species of Ichneumonidae.

Proc. U. S. Nat. Mus.,
46, No. 2031, Dec.
31, 1913, pp. 359-
386.

Describes the new genera *Eristernaularia*, *Macroneuroidea*, *Trachagathis* and *Zadiolcogaster* of Braconidae; and of Ichneumonidae the following as new: *Aglaojoppidea*, *Cryptanuridomor*

VIERECK, HENRY L.—Continued.

pha, *Cryptophion*, *Cryptopterigmorpha*, *Digonocryptus*, *Epipelmidea*, *Joppocryptus*, *Lamprocryptidea*, *Monogonocryptus*, *Phenolabrorychus*, *Photocryptus*, *Polyamidea*, *Polycyrtidea*, *Polycyrtimorpha*, *Thymarimorpha*, *Zaglyptomorpha* and *Zamastus* from South America, and *Diaglyptidea* and *Photoptera* from Java. The new species described are mostly from South America.

——— Type species of the genera of Ichneumon flies.

Bull. U. S. Nat. Mus.,
No. 83, Jan. 31,
1914, pp. 1-v, 1-186.

The author proposes the following: *Chorebidea* for *Chorebus* of authors, not of Haliday; *Deuteroworides* for *Iorides* of authors, not of Latreille; *Diclosteroceus* for *Closterocerus* Hartig, not of Westwood; *Helconidea* for *Helcon* of authors, not of Nees; *Ischnopsidea* for *Ischnus* of authors, not of Gravenhorst; *Mesostenidea* for *Mesostenus* of authors, not of Gravenhorst; *Myriarthridea* for *Myriarthrus* of authors, not of Foerster; *Pimplidea* for *Pimpla* of authors, not of Fabricius; *Plectiscidea* for *Plectiscus* of authors, not of Gravenhorst; *Plestophthalmidea* for *Plestoph-*

VIERECK, HENRY L.—Continued.

thalmus Ashmead, not of Foerster; *Porizonidea* for *Porison* of authors, not of Fallen; *Zaviplo* for *Viplo* of authors, not of Latreille.

WALTON, W. R. A new tachinid parasite of *Diabrotica vittata*.

Proc. Ent. Soc. Washington, 16, No. 1,
Mar. 23, 1914, pp.
11-14, pl. 1.

Describes *Neocelatoria ferox*, a new genus and species from Maryland, and gives observations on the method of oviposition.

——— Four new species of Tachinidæ from North America.

Proc. Ent. Soc. Washington, 16, No. 2,
June 12, 1914, pp.
90-95, 1 fig.

Describes the new genus *Polychætoneura* and four new species.

WELD, LEWIS H. A new oak gall from Mexico.

Insector Insectia Monstruosa, 1, No. 10,
*Oct. 30, 1913, pp.
132-134, pl. 4.

Describes the gall, its maker, and a new species of inquiline. Paratypes of the gall maker have been deposited in the National Museum.

CRUSTACEANS.

RATHBUN, MARY J. Descriptions of new species of crabs of the families Grapsidæ and Ocypodidæ.

Proc. U. S. Nat. Mus.,
46, No. 2030, Dec.
31, 1913, pp. 353-
358, pls. 30-33.

The following species from the Indo-Pacific region are described: *Eriocheir leptognathus*, *Ptychognathus johanna*, *Sesarma* (*Sesarma*) *homanense*, and *Tympanomerus deschampsii*.

——— New species of crabs of the families Grapsidæ and Ocypodidæ. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 31.]

Proc. U. S. Nat. Mus.,
47, No. 2044, May 7,
1914, pp. 69-85.

One new species in each of the genera *Varuna*, *Ptychognathus*, *Macropthalmus*, *Dotilla* and *Tympanomerus*, and

RATHBUN, MARY J.—Continued.

eight new species and two new subspecies in the genus *Sesarma* are described.

——— New genera and species of American brachyrynchous crabs.

Proc. U. S. Nat. Mus.,
47, No. 2047, May
20, 1914, pp. 117-
129, pls. 1-10, figs.
1-5.

Descriptions of three new genera of the family Goneplacidae, five new species of the family Grapsidae and two new species of the family Ocypodidae. They are as follows: *Trisocarcinus* (subfamily Carcinoplacinae), *Cyrtopla* and *Chasmophora* (subfamily Prionoplacinae), *Planes marinus*, *Cyrtograpsus altimanus*, *Platychrograpsus typicus*, *Sesarma* (*Sesarma*) *verleyi*, *S. (S.) jarvisi*, *S. (Holometopus) tamplensis*, *Uca montifera* and *U. muscia*.

WORMS.

CRAWLEY, HOWARD. Initial stages of Sarcocystis infection.

Science (n. s.), 37, No. 952, Mar. 28, 1913, p. 498.

Two new Sarcosporidia.

Proc. Acad. Nat. Sci. Phila., Apr. 21, 1914, pp. 214-218, 1 fig.

Describes *Sarcocystis leporum* from a rabbit, and *S. setophagæ* from a redstart (*Setophaga ruticilla*).

The evolution of Sarcocystis muris in the intestinal cells of the mouse. (Preliminary note.)

Proc. Acad. Nat. Sci. Phila., June 24, 1914, pp. 432-436, pl. 15, figs. 1-12.

Describes the development of this parasite into two markedly dissimilar groups which are interpreted to be males and females. The first positive evidence of sexuality in the Neosporidia is supplied by the facts recorded in this paper.

HALL, MAURICE C. A new nematode, Rictularia splendida, from the coyote, with notes on other coyote parasites.

Proc. U. S. Nat. Mus., 46, No. 2012, Aug. 23, 1913, pp. 73-84, figs. 1-6.

Describes a new species of nematode from the small intestine of *Canis nebrascensis* from Amo, Colorado. A new subfamily of the family Metastrongylidae, is proposed, Rictulariinae, having *Rictularia* Frölich, 1802, as the type genus. A key is given for distinguishing the three species of *Rictularia* parasitic in carnivores. The species of parasites known to affect coyotes are listed, and *Tenia pisiformis* is recorded for the first time as a parasite of coyotes.

HARRING, HARRY K. A list of the Rotatoria of Washington and vicinity, with descriptions of a new genus and ten new species.

Proc. U. S. Nat. Mus., 46, No. 2032, Dec. 31, 1913, pp. 387-405, pls. 34-38.

HARRING, HARRY K.—Continued.

The list of Rotatoria of Washington, D. C., and adjacent parts of Maryland and Virginia numbers 246 species. The new genus described is *Rousseletia* (order Plolima) with the new species *R. corniculata*. The other new species are as follows: *Encentrum aper*, *E. myriophyllum*, *E. rioclae*, *Lecane stichea*, *Monostyla acus*, *M. crenata*, *M. sylvatica*, *Trichotria brevidactyla*, and *Asplanchnopus hyalinus*.

LINTON, EDWIN. Notes on a viviparous distome.

Proc. U. S. Nat. Mus., 46, No. 2040, Feb. 24, 1914, pp. 551-555, pl. 43, figs. 1-18.

Description of *Parorchis avitus*, new species, from the cloaca of a herring gull (*Larus argentatus*), Woods Hole, Mass.

RANSOM, B. H. Measles in cattle.

U. S. Dept. Agric., 28th Ann. Rep. Bur. Animal Industry, 1911 (1913), pp. 101-117, pls. 12-18.

Description of *Cysticercus bovis*, and discussion of the parasite with particular reference to its importance in meat inspection. It occurs in not less than 1 per cent of all cattle slaughtered in the United States, its prevalence being attributable to poor sanitary conditions in rural districts, and the common habit of eating raw or imperfectly cooked beef.

The name of the sheep measles tapeworm.

Science (n. s.), 38, No. 972, Aug. 15, 1913, p. 280.

Cysticercus ovis, the cause of tapeworm cysts in mutton.

U. S. Dept. Agric., Journ. Agric. Research, 1, No. 1, Oct. 10, 1913, pp. 15-58, pls. 2-4, figs. 1-13.

Reports results of experiments proving the parasite of sheep measles to be the intermediate stage of a dog tapeworm, and not the intermediate stage of *Tenia solium* of man as commonly supposed. This parasite has recently been found to be very common among sheep in

RANSOM, B. H.—Continued.

the Western United States. A full description of the larval and adult stages is given.

——— [Agamenematodum gaylordi.]

Bull. Bur. Fisheries, 32, No. 790, April 22, 1914, pp. 500, 501.

Description of a larval nematode found by Gaylord & Marsh in tubercles in the hyperplastic thyroids of dogs which had been given pond mud and water, or water containing scrapings from troughs in which fish affected with carcinoma of the thyroid had been kept.

SMITH, F. Additional data on some of Eisen's species of Lumbricidæ.

Science (n. s.), 39, No. 1001, Mar. 6, 1914, pp. 364, 365.

Results of the preliminary study of specimens of three of Eisen's species in the National Museum, which have not been reported since the original descriptions. They are *Helodrilus tenuis*, *H. tumidus*, and *Tetragonura pupa*. A fuller account will be published in a more extended paper from the National Museum.

ECHINODERMS.**CLARK, AUSTIN HOBART. Descriptions of twenty new recent unstalked crinoids belonging to the families Antedonidæ and Atelecrinidæ from the Dutch East Indies.**

Notes from the Leyden Museum, 34, No. 2, Apr. 1, 1912, pp. 129-156.

The new species described form part of the collection made by the Dutch steamship "Sigboga" in the Dutch East Indies. The diagnosis of a new genus of Atelecrinidæ, *Atopocrinus*, is included. Duplicate specimens will be deposited in the National Museum.

——— A revision of the crinoid family Mariametridæ.

Proc. Biol. Soc. Washington, 26, June 30, 1913, pp. 141-144.

The numerous crinoid species heretofore referred to various genera placed in the Pontometridæ and Mariametridæ are here distributed among six genera, all of which are assigned to the Mariametridæ. Of these six genera two, *Liparometra* and *Lamprometra*, are new.

——— Description of a collection of unstalked crinoids made by Capt. Suenson in eastern Asia.

Proc. Biol. Soc. Washington, 26, Aug. 8, 1913, pp. 177-182.

Seven species are listed and described. The faunal relationships of the east Asiatic

CLARK, AUSTIN HOBART—Continued.

coasts are discussed. A systematic list of all the species occurring between southern Japan and Korea and Cochin China is given, and the faunal division to which each belongs is indicated. A set of duplicates will be placed in the National Museum.

——— Revision of the crinoid genus Himerometra.

Proc. U. S. Nat. Mus., 46, No. 2026, Nov. 25, 1913, pp. 279-289.

Includes a history of the genus, a list of all the references to the included species, correctly identified, a key to the species, a list of the six species with the synonymy, range and depth of each, and a discussion of the phylogenetical interrelationships within the group.

——— The systematic position of the crinoid family Plicatocrinidæ.

Journ. Washington Acad. Sci., 3, No. 20, Dec. 4, 1913, pp. 494-499.

The family Plicatocrinidæ, including a number of recent genera, is shown to belong to the almost exclusively palæozoic order Inadunata.

——— Notes on the recent crinoids in the British Museum.

Smithsonian Misc. Colls., 61, No. 15, Dec. 31, 1913, pp. 1-89.

CLARK, AUSTIN HOBART—Continued.

In this paper are presented the notes taken by the author upon the specimens of recent crinoids in the British Museum which he examined in London. Many of the 1538 specimens listed are compared with others in the collection of the National Museum.

— On the deep sea and comparable faunas.

Internationale Revue der gesamten Hydrobiologie und Hydrographie, 6, heft 1, 2/3, 1913, pp. 2-30, 133-146.

Includes a number of generalizations bearing upon faunal relations, paleontology and paleogeography, deduced from a study of marine animals, particularly the recent erinoids.

FISHER, WALTER K. New starfishes from the Philippine Islands, Celebes, and the Moluccas. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 80.]

Proc. U. S. Nat. Mus., 46, No. 2022, Sept. 30, 1913, pp. 201-224.

The third paper on starfishes in the Philippine series. Describes three new genera, *Haltyle* (Oreasteridæ), *Dissogenes* (Linckidæ), *Tarachaster* (Gasteridæ), a new subgenus, *Xenorias*, of *Rhipidaster*, and 29 new species distributed in 20 genera.

KOEHLER, RENÉ. A contribution to the study of the Ophiurans of the United States National Museum.

Bull. U. S. Nat. Mus., No. 84, Apr. 9, 1914, pp. i-vii, 1-178, pls. 1-18.

A report on a collection of ophiurans chiefly from the West Indies and the southeastern United States but including a few specimens from other localities. Twenty-four new species and a new genus, *Ophiomistidium*, are described, also several imperfectly known species. The new species belong to the genera *Ophioderma*, *Ophioglypha*, *Ophiomurum*, *Ophiomistidium*, *Amphitura*, *Amphodia*,

KOEHLER, RENÉ—Continued.

Ophacantha, *Ophiomitrella*, *Ophiomitra*, *Ophiotrema*, *Ophiologmus*, *Ophiothrix*, *Ophiolopias*, *Ophiobyrassa*, *Ophiichondrus*, *Stysbela* and *Astrochema*. To make the record complete for the West Indian ophiurans in the National Museum, a list is appended of those species identified many years ago by the Hon. Theodore Lyman, with the localities for each.

MORTENSEN, TH. Echinoidea (Part 2).

The Danish Ingolf-Expedition, 4, pt. 2, Copenhagen, 1907, pp. 1-200, pls. 1-19, figs. 1-27.

For purposes of identification and comparison with *Ingolf* material, the writer had studied a number of types in this Museum, and also sundry collections made by the U. S. Fisheries steamer "Albatross," which are described in this report.

VERRILL, ADDISON EMERY. Monograph of the shallow-water starfishes of the North Pacific coast from the Arctic Ocean to California, with revisions of various extralimital genera and species.

Harriman Alaska Series, 14. Smithsonian Inst. No. 2140, Apr. 30, 1914. Pt. 1, pp. i-xii, 1-408, figs. 1-16, Pt. 2, pls. 1-110.

Based on collections from the Harriman Expedition, the Canadian Geological Survey and various museums and individuals. A small collection from the United States National Museum is included. Every phase of the fauna is dealt with, its richness and relation to other faunæ, the habits of the starfishes, their different stages, characteristics and variations. Three orders of Asteroidea are recognized, viz., Forcipulosa, Spinulosa and Phanerozonia. The family Asteriidae is treated in great detail. Analytical tables are given of the genera, species, etc.; all the forms are described and most of them are figured. Seventeen new genera and many new species, subspecies and varieties are made.

BRYOZOANS.

OSBURN, RAYMOND C. The Bryozoa of the Tortugas Islands, Florida.

Carnegie Inst. of Washington, Pub. No. 182, 1914, pp. 181-222, figs. 1-23.

Although this paper is concerned mainly with material obtained for the Carnegie Institu-

OSBURN, RAYMOND C.—Continued.

tion, specimens are recorded of two species, *Lichenopora hispidia* and *Holoporella*, species not named, which were obtained by Dr. Paul Bartsch at Biscayne Key and are in the National Museum collection.

CELENTERATES.

HARGITT, CHARLES W. The Anthozoa of the Woods Hole region.

Bull. Bur. Fisheries, 32, No. 788, Apr. 25, 1914, pp. 223-254, pls. 41-44, figs. 1-5.

Gives a general account of the characteristics of the Anthozoa, their morphology, coloration, phosphorescence, repro-

HARGITT, CHARLES W.—Continued.

duction, distribution and economic relations. The systematic part includes descriptions of all the divisions down to species, and keys to families. Twenty-two species are included in the fauna. Two of the plates are colored.

PROTOZOANS.

CUSHMAN, JOSEPH AUGUSTINE. A monograph of the foraminifera of the North Pacific Ocean. Pt. 3. Lagenidæ.

Bull. U. S. Nat. Mus., No. 71, Dec. 12, 1913, pp. i-lx, 1-125, pls. 1-47.

This is the third part of a work on the Foraminifera of the North Pacific Ocean, the first of which appeared in 1910 and the second in 1911. The author describes 5 subfamilies, 12 genera, 162 species, and 46 varieties, subspecies, and forms. Nearly all are figured. There are 13 new species, 17 new varieties and 2 new names for known species.

CUSHMAN, JOSEPH AUGUSTINE. A monograph of the Foraminifera of the North Pacific Ocean. Pt. 4. Chlostomellidæ, Globigerinidæ, Nummulitidæ.

Bull. U. S. Nat. Mus., No. 71, Feb. 28, 1914, pp. i-vi, 1-46, pls. 1-19.

This is the fourth part of a work on the Foraminifera, the third part of which is noticed above. The three families discussed are represented in the North Pacific Ocean by 14 genera, 41 species and 1 variety. All but two of the species are figured.

BOTANY.

COOK, O. F. Nomenclature of the Sapote and the Sapodilla.

Contr. U. S. Nat. Herb., 16, pt. 11, Dec. 13, 1913, pp. 277-285, pls. 100, 101.

GREENE, EDWARD L. Certain violet names.

Amer. Midland Naturalist, 3, No. 4, July, 1913, pp. 79-85.

——— Novitates Boreali-Americanae. 7. *Repertorium specierum novarum regni vege-*

GREENE, EDWARD L.—Continued.

tabilis auctore F. Fedde, 13, Apr. 28, 1914, pp. 320-324.

Descriptions of new species, two in *Aquilegia*, one in *Aconitum*, five in *Vancouveria*, two in *Dodecatheon*, one in *Callistopsis*, and one in *Agoseris*.

HITCHCOCK, A. S. Mexican grasses in the United States National Herbarium.

Contr. U. S. Nat. Herb., 17, pt. 3, July 15, 1913, pp. 181-389.

KRAUSE, K. A new shrub of the genus *Esenbeckia* from Colombia.

Smithsonian Misc. Colls., 61, No. 18, Sept. 29, 1913, p. 1.

MAXON, WILLIAM R. Some recently described ferns from the Southwest.

Amer. Fern Journ., 8, No. 4, Dec., 1913, pp. 109-116.

— Studies of tropical American ferns—No. 5.

Contr. U. S. Nat. Herb., 17, pt. 4, Jan. 21, 1914, pp. 391-425, pls. 11-23, figs. 8-10.

— A family of ferns new to the United States.

Amer. Fern Journ., 4, No. 1, Mar., 1914, pp. 15-17.

PITTIER, HENRY. On the relationship of the genus *Aulacocarpus*, with description of a new Panamanian species.

Smithsonian Misc. Colls., 63, No. 4, Mar. 18, 1914, pp. 1-4, figs. a-c.

— New or noteworthy plants from Colombia and Central America—4.

Contr. U. S. Nat. Herb., 18, pt. 2, Apr. 16, 1914, pp. 69-86, pls. 42-56, figs. 76-87.

RADLKOFER, L. New Sapindaceae from Panama and Costa Rica.

Smithsonian Misc. Colls., 61, No. 24, Feb. 9, 1914, pp. 1-8.

ROSE, J. N. Botanical observations by Dr. J. N. Rose in Europe and in Kansas.

Smithsonian Misc. Colls., 60, No. 30, July 3, 1913, pp. 74-76, 1 fig.

— *Populus Macdougalii*: a new tree from the Southwest.

Smithsonian Misc. Colls., 61, No. 12, Sept. 3, 1913, pp. 1, 2, pl. 1.

— *Mamillaria arida* Rose, spec. nov.

Monatsschr. für Kakteenkunde, 23, No. 12, Dec. 15, 1913, p. 181.

SAFFORD, WILLIAM E. *Annona sericea* and its allies.

Contr. U. S. Nat. Herb., 16, pt. 10, Dec. 13, 1913, pp. 263-275, pls. 85-99, figs. 42-44.

— Classification of the genus *Annona*, with descriptions of new and imperfectly known species.

Contr. U. S. Nat. Herb., 18, pt. 1, June 17, 1914, pp. 1-68, pls. 1-41, figs. 1-75.

SMITH, JOHN DONNELL. Undescribed plants from Guatemala and other Central American republics. 37.

Botan. Gaz., 56, No. 1, July 16, 1913, pp. 51-62.

Descriptions of new species in *Abutilon*, *Comocladia*, *Dalea*, *Dioclea*, *Phaseolus*, *Platymiscium*, *Lonchocarpus*, *Derris*, *Diploptropis*, *Mimosa*, *Pithecolobium*, *Aralia*, *Manettia*, *Rondeletia*, *Ipomoea*, *Cacabus*, *Salvia*, *Gala-dendron*, and *Euphorbia*.

— Undescribed plants from Guatemala and other Central American republics. 38.

Botan. Gaz., 57, No. 5, May 16, 1914, pp. 415-427.

Descriptions of new species in *Erythrum*, *Xylosma*, *Sloanea*, *Ilex*, *Connarus*, *Drepanocarpus*, *Lonchocarpus*, *Leucaena*, *Pithecolobium*, *Rubus*, *Gilbertia*, *Faramea*, *Jacquemontia*, *Cyphomandra*, *Brachistius*, *Columnea*, *Aegiphila*, and *Scutellaria*. There is also described a new genus, *Guamatela*, of the family Rosaceae, with a single member, *G. tuerckheimii*, sp. nov.

— and J. N. ROSE. A monograph of the Haueyeae and Gongylocarpeae, tribes of the Onagraceae.

Contr. U. S. Nat. Herb., 16, pt. 12, Aug. 23, 1913, pp. 287-298, figs. 45-54.

STANDLEY, PAUL C. A new Dodecatheon from New Mexico.

Proc. Biol. Soc. Washington, 26, Oct. 23, 1913, pp. 195, 196.

STANDLEY, PAUL C. Studies of tropical American phanerogams—No. 1.

Contr. U. S. Nat. Herb.,
17, pt. 5, Jan. 30,
1914, pp. 427-458,
pls. 24-31.

Includes revisions of the genera *Sommeria*, *Cobaea*, and *Watsonamra*, and a description of a new genus, *Nothophlebia*, in the Rubiaceae.

—Two additions to the flora of Louisiana.

Torreya, 14, No. 2, Feb.,
1914, pp. 21-24.

TIDESTROM, IVAR. Botrychium virginianum and its forms.

Contr. U. S. Nat. Herb.,
16, pt. 13, Dec. 29,
1913, pp. 299-303,
pl. 102.

—Sphenoclea zeylanica and Capenronia palustris in the southern United States.

Contr. U. S. Nat. Herb.,
16, pt. 13, Dec. 29,
1913, pp. 305-307,
pl. 103.

GEOLOGY AND MINERALOGY.

GILBERT, CHESTER G., and JOSEPH E. POGUE. The Mount Lyell Copper District of Tasmania.

Proc. U. S. Nat. Mus.,
45, No. 2005, July
22, 1913, pp. 609-
625, pls. 48-51, 1 fig.

After reviewing the history and geology of this important copper district, the paper gives the results of a detailed metallographic study of the ores. The deposition is indicated to have occurred during a distinct mineralizing epoch marked by solutions progressively changing in composition and depositing a series of sulphide minerals in sequential and transitional stages. The article closes with a brief description of analogous deposits and a selected bibliography.

POGUE, JOSEPH E. (See under Chester G. Gilbert.)

WHERRY, EDGAR T. Variations in the compositions of minerals.

WHERRY, EDGAR T.—Continued.

*Journ. Washington
Acad. Sci.*, 4, No. 5,
Mar. 4, 1914, pp.
111-114.

A new definition for a mineral species is proposed which takes into account variations in composition due to adsorption and solid solution, and a new term, *meta-colloid*, is suggested for colloid minerals which have become crystalline, the reasons for these recommendations being discussed at length. Based largely on a study of Museum material.

—Mineral nomenclature.

Science (n. s.), 39, No.
1007, Apr. 17, 1914,
pp. 575-577.

Discussion of a paper by A. F. Rogers, recommending the use of mineral species names as group names when isomorphism is recognized, and the use of chemical prefixes to designate the end members of isomorphous series. Based largely on a study of Museum material.

PALEONTOLOGY.

BASSLER, R. S. Notes on an unusually fine slab of fossil crinoids.

Proc. U. S. Nat. Mus.,
46, No. 2009, Nov.
29, 1913, pp. 57-59,
pls. 1, 2.

Discusses the discovery, excavation, and preparation for exhibition of a slab of Lower Devonian limestone 4 feet wide by 7 feet long, crowded with un-

BASSLER, R. S.—Continued.

usually well preserved examples of the genus *Scyphocrinus*, with which are associated the common bulb-like bodies known as *Camarocrinus*. The slab, in connection with other specimens, is the basis of a monograph upon the genus *Scyphocrinus* now in preparation by Mr. Frank Springer.

RASSLER, R. S., T. P. MAYNARD, D. W. OHERN, CHARLES SCHUCHERT, C. K. SWARTZ, and E. O. ULRICH. Systematic Paleontology of the Lower Devonian deposits of Maryland.

Maryland Geol. Surv., Lower Devonian, 1913, pp. 195-542, pls. 17-98, figs. 3-17.

A systematic description of the Lower Devonian fauna of Maryland. Many old forms are redescribed and figured, and a number of new genera and species founded. The article is based largely on Museum material.

BERRY, EDWARD WILBER. The Upper Cretaceous and Eocene floras of South Carolina and Georgia.

Prof. Paper, U. S. Geol. Surv., 84, 1914, pp. 1-200, pls. 1-29, figs. 1-12.

Presents the first systematic account of fossil plants from the Coastal Plain districts of Georgia and South Carolina, and although preliminary to a larger work, it describes a considerable flora. Practically all of the specimens described are the property of the National Museum.

DALL, WILLIAM HEALEY. On a brackish water Pliocene fauna of the Southern Coastal Plain.

Proc. U. S. Nat. Mus., 46, No. 2023, Dec. 6, 1913, pp. 225-237, pls. 20-22.

Describes the invertebrate molluscan fossils of a newly discovered fauna, comprising the following new species and varieties: *Rangia cuneata* var. *solida*, *Heterodonax alexandra*, *Unio (Lampsilis?) sandrius*, *U. (Pleurobema?) allanus*, *U. (Unio) mustus*, *Potamides matsoni*, *P. matsoni* var. *gracillior*, *Cerithiopsis? burkevilensis*, *Pachychelilus anagrammatus*, *P. suavis*, *Turritella satilla*, *Isapis obsoleta*, *Syrnola thelma*, *Paludestrina aldrichi*, *P. curva*, *P. cingulata*, *P. turricula*, *P. milium*, *Pyrgulopsis? satilla*, *Neritina sparsilineata*, and *Planorbis ophis*. The types are in the National Museum.

GIDLEY, JAMES WILLIAMS. Preliminary report on a recently discovered Pleistocene cave deposit near Cumberland, Maryland.

Proc. U. S. Nat. Mus., 46, No. 2014, Aug. 23, 1913, pp. 93-102, figs. 1-8.

A brief history of the discovery, locality, and description of the cave deposit is followed by a geologic history with a short discussion of its relative age, and probable manner of entombment of the animal remains. It is concluded that this deposit is older than the Conard Fissure of Arkansas, being probably about the equivalent of the Port Kennedy, Pa., cave deposit. A preliminary list of the fauna represented is given, followed by a description of two new species of carnivores, supplemented by brief notes on the lower teeth of canids, with especial reference to the distinctive characters presented in the carnassials. A classification of the principal living groups, with two extinct species included, is here based on these characters.

— Some new American pycnodont fishes.

Proc. U. S. Nat. Mus., 46, No. 2036, Dec. 31, 1913, pp. 445-449, figs. 1-6.

Five new species of pycnodont fishes are here described, those referable to *Microdon*, an Old World genus, constituting the first record of the presence of this form in deposits of this continent.

GILMORE, CHARLES W. A new Ceratopsian dinosaur from the Upper Cretaceous of Montana, with note on Hypacrosaurus.

Smithsonian Misc. Coll., 63, No. 3, Mar. 21, 1914, pp. 1-10, pls. 1, 2, figs. 1-3.

A preliminary description of the new Ceratopsian dinosaur *Brahyceratops montanensis*, from the Two Medicine formation of northwestern Montana. This form is of interest as being the most diminutive member of the Ceratopsia yet discovered. The finding of remains of the

GILMORE, CHARLES W.—Continued.

trachodont reptile *Hypacrosaurus* in the Judith River (Belly River) beds is announced.

GIRTY, GEORGE H. A report on Upper Paleozoic fossils collected in China in 1903-04.

Carnegie Inst. of Washington, Publ. No. 54, *Research in China*, 3, 1913, pp. 297-334, pls. 27-29.

In this paper a detailed description of the Upper Paleozoic fossils collected by the Carnegie Institution expedition is given. The faunas are compared with previously described Carboniferous faunas from eastern Asia, and correlations are made with Russian and American sections. The conclusions are that Upper Carboniferous is undoubtedly represented and constitutes the major portion of the collection. Lower Carboniferous and Permian may be present, but the evidence is inconclusive. One fauna is given a possible range from Upper Silurian to Lower Carboniferous. The fossils described are the property of the U. S. National Museum.

HAY, OLIVER P. The extinct bisons of North America; with description of one new species, *Bison regius*.

Proc. U. S. Nat. Mus., 46, No. 2021, Dec. 6, 1913, pp. 161-200, pls. 8-19, figs. 1-10.

Describes one new species and discusses the American extinct species of *Bison*, and also for comparison the European species *B. priscus*. The article contains several valuable tables of comparative measurements and a synopsis of the characters of North American bisons.

——— Camels of the fossil genus *Camelops*.

Proc. U. S. Nat. Mus., 46, No. 2025, Dec. 6, 1913, pp. 267-277, pls. 25, 26, 1 fig.

Reviews and discusses the characters of the American Pleistocene camels variously referred to the genus *Camelops*. Concludes that *C. kansanus*, *C. hesternus*, and *C. huerfanensis* are distinct species; that it is

HAY, OLIVER P.—Continued.

not at present possible to decide the status of *Megalomerys niobrarenensis* Ledy; and accepts the following species of *Camelops* as valid: *C. kansanus*, *C. californicus*, *C. hesternus*, *C. vitakerianus*, *C. niobrarenensis*, *C. macrocephalus*, and *C. huerfanensis*.

HUENE, FRIEDRICH v. Über die Zweistämmigkeit der Dinosaurier, mit Beiträgen zur Kenntnis einiger Schädel.

Neues Jahrb. für Min., Geol., und Pal., Beilage - Band 37, 1914, pp. 577-589, pls. 7-12.

Discusses the evidence as shown by the skulls for the separation of the order Dinosauria into the two suborders Saurischia and Ornithischia. The article is based in part on specimens belonging to the U. S. National Museum, some of which are figured.

KIRK, EDWIN. Notes on the fossil crinoid genus *Homocrinus* Hall.

Proc. U. S. Nat. Mus., 46, No. 2038, Feb. 14, 1914, pp. 473-483, pl. 42.

A study of the type species of *Homocrinus*, *H. parvus* Hall, led to the discovery that the genus is structurally quite different from what has been supposed. In the present paper *Homocrinus* is redefined, and a new genus, *Lasiocrinus*, erected for the reception of such forms as *Homocrinus scoparius* Hall, which has been chosen as the type of the new genus. A new family, Homocrinidae, is proposed. The material upon which the studies were based is in the Springer collection, deposited in the U. S. National Museum.

KNOWLTON, F. H. The Jurassic flora of Cape Lisburne, Alaska.

Prof. Paper, U. S. Geol. Surv., 85-D, Jan. 28, 1914, pp. 39-64, pls. 5-8.

The Jurassic section of Cape Lisburne, to which the name Corwin formation has been given, reaches the thickness of over 15,000 feet. So far as at present known, the fossil flora is uniformly distributed

KNOWLTON, F. H.—Continued.

throughout, and embraces 17 species, only one of which is described as new. This flora is compared with known Jurassic floras of various parts of the world, and the conclusion is reached that it is not only undoubtedly Jurassic in age—which had previously been questioned—but belongs either in the upper part of the Middle Jurassic or Brown Jura, or the extreme lower part of the Upper Jurassic or White Jura—that is to say it is probably not older than the Bathonian, and certainly not younger than the Oxfordian. Several pages are devoted to a discussion of the geographic range of Jurassic floras in general, their means and avenues of dispersal, and the probable climatic conditions that prevailed in Alaska at the time this flora flourished there.

MAYNARD, T. P. (See under R. S. Bassler.)

OHERN, D. W. (See under R. S. Bassler.)

PETRUNKEVITCH, ALEXANDER. A monograph of the terrestrial Paleozoic Arachnida of North America.

Trans. Connecticut Acad. Arts and Sci., 18, June, 1913, pp. 1-137, pls. 1-13, figs. 1-88.

This monograph constitutes a revision of all known North American Paleozoic terrestrial arachnids. In addition, 24 species and 13 genera are described for the first time, and 2 new families and one new order are established. Valuable information as regards the morphology and phylogeny of the Arachnida is given. The paper is based in part on material in the collection of the U. S. National Museum, which contains many of the described types of these fossils, including 9 of the new species.

POWERS, SIDNEY. (See under Hervey W. Shimer.)

SCHUCHERT, CHARLES. (See under R. S. Bassler.)

SHIMER, HERVEY W., and SIDNEY POWERS. A new sponge from the New Jersey Cretaceous.

Proc. U. S. Nat. Mus., 48, No. 2019, Dec. 6, 1913, pp. 155, 156, pl. 7.

Describes the new species of fossil sponge *Oecloptychium? jerseyense* from the Mount Laurel-Navesink beds of the Cretaceous at Atlantic Highlands, New Jersey.

SHUFELDT, R. W. Review of the fossil fauna of the Desert Region of Oregon, with a description of additional material collected there.

Bull. Amer. Mus. Nat. Hist., 32, Art. 6, July 9, 1913, pp. 123-178, pls. 9-43.

Reviews the fossil fauna of the Christmas Lake region of Oregon, with especial reference to the extinct birds, describing three new species. Discusses and figures a small collection of avian remains in the U. S. National Museum.

— Further studies of fossil birds with descriptions of new and extinct species.

Bull. Amer. Mus. Nat. Hist., 32, Art. 16, Aug. 4, 1913, pp. 285-306, pls. 51-59.

Describes *Diatryma ajax*, *Palaeophasianus meleagroides*, *Aquila antiqua*, *A. ferax*, *A. lydekkert*, *Palaeospiza hatcheri*, and *Proctinia gilmorei*, all new species, two of which belong to the National Museum collection. Notes on many unidentified forms are inserted at various places throughout the article.

— Fossil feathers and some heretofore undescribed fossil birds.

Journ. Geol., 21, No. 7, Oct.-Nov., 1913, pp. 628-652, figs. 1-12.

Describes and figures all available fossil bird feathers. Two new forms, *Hebe schucherti* and *Yalavis tenuipes* are named. One specimen, belonging to the National Museum, is described and figured.

SHUFELDT, R. W. Extinct ostrich birds of the United States.

Aquila, 20, 1913, pp. 411-422, pls. 1-5.

Discusses the probable relationships of many extinct so-called ostrich-like birds, with especial reference to the genera *Diatryma* and *Gastornis*. The new family Diatrymidae is proposed. U. S. National Museum specimens are described and figured.

STEPHENSON, LLOYD WILLIAM. Cretaceous deposits of the eastern Gulf region and species of *Exogyra* from the eastern Gulf region and the Carolinas.

Prof. Paper, U. S. Geol. Surv., 81, 1914, pp. 1-77, pls. 1-21, figs. 1, 2.

Describes the Cretaceous formations in Georgia, Alabama, Mississippi, Tennessee and Kentucky, and gives full lists of the invertebrate faunas; also describes and figures the species of *Exogyra*, including a new species and two new varieties, from the Cretaceous of the same area and from the Carolinas. The specimens are the property of the U. S. National Museum.

SWARTZ, C. K. (See under R. S. Bassler.)**ULRICH, E. O.** (See under R. S. Bassler.)**WALCOTT, CHARLES D.** The Cambrian faunas of China.

Carnegie Inst. of Washington, Publ. No. 54, *Research in China*, 3, 1913, pp. 1-278, pls. 1-24, figs. 1-9.

An exhaustive review of the Cambrian collections made by Messrs. Willis and Blackwelder in 1903-4, and by Prof. Joseph P. Iddings in 1909. Four preliminary reports were revised in this memoir. Describes 63 genera, 5 subgenera, 245 species, and 11 varieties. Treats Cambrian fauna exhaustively—historical review, synonymy, bibliography, localities, geological conditions, paleontology, stratigraphic and geographic distribution. About 950 figures of fossils are given.

WALCOTT, CHARLES D. Cambrian Geology and Paleontology. II. No. 11.—New Lower Cambrian subfauna.

Smithsonian Misc. Colls., 57, No. 11, July 21, 1913, pp. 309-328, pls. 50-54.

Describes and figures 10 species from the Robson Peak district fauna, 9 of which are new, as follows: *Mickwitzia muralensis*, *Angulella chapa*, *L. hitka*, *Obolella nuda*, *Holmia? macer*, *Wanneria occidentalis*, *Callavia eucharis*, *C. perfecta*, and *Olenellus truemanii*.

— Cambrian Geology and Paleontology. II. No. 12.—Cambrian formations of the Robson Peak District, British Columbia and Alberta, Canada.

Smithsonian Misc. Colls., 57, No. 12, July 24, 1913, pp. 327-343, pls. 55-59, figs. 11, 12.

Results of study of the Robson Peak section in 1912, including geological section, nomenclature, stratigraphic section showing Ordovician to pre-Cambrian, and comparison suggesting possible correlation with Mount Bosworth section.

— Cambrian Geology and Paleontology. II. No. 13.—*Dikelocephalus* and other genera of the *Dikelocephalinae*.

Smithsonian Misc. Colls., 57, No. 13, April 4, 1914, pp. 345-412, pls. 60-70, figs. 13-20.

Discusses previous classification of *Dikelocephalus* and reclassifies the species under five different genera, three of which, *Saukia*, *Osceolla*, and *Calvinella*, are new. Describes 13 new species as follows: *Dikelocephalus? dalyi*, *D. texanus*, *D. vanhornei*, *Saukia coloradoensis*, *S. fallax*, *S. junia*, *S. leucostea*, *S. pyrene*, *S. rusthoa*, *S. stosei*, *S. wardi*, *Calvinella osarkensis*, and *C. tenuisculpta*. Fixes spelling of *Dikelocephalus* as originally. Proposes provisional classification of pre-Ordovician formations in the Upper Missis-

WALCOTT, CHARLES D.—Continued.

Mississippi Valley, and describes Jordan, St. Lawrence, Franconia, and Eau Claire formations, with lists of fauna.

—Cambrian Geology and Paleontology. III. No. 1.—The Cambrian faunas of Eastern Asia.

Smithsonian Misc. Colls., 64, No. 1, April 22, 1914, pp. 1-75, pls. 1-3, figs. 1-9.

A reprint of the introduction, historical review, bibliography, etc., of "The Cambrian faunas of China," published by permission of the Carnegie Institution, with slight revision and additions. The three plates were reproduced from Publication No. 54, volume 1, Carnegie Institution of Washington.

WELLER, STUART. A report on Ordovician fossils collected in Eastern Asia in 1903-4.

Carnegie Inst. of Washington, Publ. No. 54, *Research in China*, 3, 1913, pp. 279-294, pls. 25, 26.

In this paper two widely separated Ordovician faunas are described, one coming from the Province of Shan-tung, the other from eastern Ssi-ch'uan. The first of these faunas consists of poor material, the exact age of which it is impossible to determine. It is, however, referred to the Middle Ordovician, or Mohawkian. The second fauna is correlated without much question with the Black river of America on the one hand, and the *Vaginatus* horizon of Russia on the other. A detailed description of fossils is given, with figures, and comparisons are made with other known Ordovician faunas of eastern Asia. The material described is the property of the U. S. National Museum.

WHITE, DAVID. Resins in Paleozoic plants and in coals of high rank.

Prof. Paper, U. S. Geol. Surv., 85-E, Mar. 25, 1914, pp. 65-96, pls. 9-14.

WHITE, DAVID—Continued.

Resinous substances, in microscopic particles and as lumps visible to the naked eye, appear to be present in all, or nearly all, coals of Mesozoic or Tertiary age that have not been subjected to such dynamic alteration as to cause the transformation of the resins. This transformation occurs when the fixed carbon in the coals approaches 70 per cent pure coal basis. The author describes and illustrates resins and resinous substances in Paleozoic coals of a rather low bituminous rank, thus confirming the interpretations suggested by various paleobotanists that some of the secretory cells or canals noted in petrified fragments of certain Paleozoic plant types may have contained resins.

WILLIAMS, HENRY SHALER. New species of Silurian fossils from the Edmunds and Pembroke formations of Washington County, Maine.

Proc. U. S. Nat. Mus., 45, No. 1985, July 22, 1913, pp. 319-352, pls. 29-31.

This paper contains descriptions of the more characteristic fossils of the Silurian formations mapped in the Eastport folio of the U. S. Geological Survey. Eight species are described from the Edmunds formation, and 12 from the Pembroke. All of these are illustrated and the types are in the collections of the U. S. National Museum.

—Recurrent *Tropidoleptus* zones of the Upper Devonian in New York.

Prof. Paper, U. S. Geol. Surv., 79, 1913, pp. 1-103, pls. 1-6, figs. 1-18.

As the result of a study of the Upper Devonian faunas of the Watkins Glen and Catatonk quadrangles, New York, Professor Williams made an interesting discovery of the recurrence in beds of Portage and Chemung age of fossils characteristic of the Middle Devonian. This led to an intensive study of the faunas, the results of which are given in the present paper.

WILLIAMS, HENRY SHALEB—Contd.

Of special interest is a detailed discussion of the variations observed in the recurring species, and a discussion of the physical history of the region as shown by the succession of

WILLIAMS, HENRY SHALEB—Contd.

faunas. The variations of the fossils are well illustrated by numerous figures. The original material upon which the studies were made is the property of the U. S. National Museum.

OCEANOGRAPHY.**BIGELOW, HENRY B. Oceanographic cruises of the U. S. Fisheries Schooner "Grampus" 1912-1913.**

Science (n. s.), 38, No. 982, Oct. 24, 1913, pp. 599-601.

An account of two cruises of the *Grampus* for oceanographic research during the summers of 1912 and 1913 and extending from Nova Scotia to Chesapeake Bay. Incidentally mentions the plankton collections, covering various groups of invertebrates. These collections are in the National Museum.

— Explorations in the Gulf of Maine, July and August, 1912, by the U. S. Fisheries Schooner "Grampus." Oceanography and notes on the Plankton.

Bull. Mus. Comp. Zool., 58, No. 2, Feb., 1914, pp. 31-147, pls. 1-9.

The latter part of this report deals with the invertebrate plankton, the larger forms consisting chiefly of crustaceans, chaetognaths, medusae, siphonophores, ctenophores, salpae and *Tomopteris*, and the microplankton composed largely of *Oerathium*. The collections are in the National Museum.

CLARK, AUSTIN HOBART. The circulation of the abyssal water of the oceans.

Journ. Washington Acad. Sci., 4, No. 1, Jan. 4, 1914, pp. 1-3.

Gives a brief sketch of the circulation of the abyssal waters of the oceans as deduced from a study of the distribution of the bottom-living recent crinoids.

— The circulation of the abyssal waters of the oceans, as indicated by the geographical and bathymetrical distribution of the recent crinoids.

Bull. de l'Institut Oceanographique (Fondation Albert I^{er}, Prince de Monaco), No. 285, Feb. 25, 1914, pp. 1-27.

The circulation of the abyssal waters of the oceans as indicated by the geographical and bathymetrical distribution of the recent crinoids, especially those belonging to the genus *Florometra*, is discussed in detail. This paper is an extension of the preceding.

EXPLORATION AND FIELD WORK.**Explorations and field-work of the Smithsonian Institution in 1912.**

Smithsonian Misc. Coll., 60, No. 30, July 3, 1913, pp. 1-76, figs. 1-82.

This paper contains notes on the following expeditions, the most of which resulted in the acquisition of material for the Museum collections: A zoological and ethnological expedition to Dutch East Borneo, maintained by Dr. W. L. Abbott; Mr. D. D. Streeter's expedition to Borneo; Mr. George Mixer's collecting trip to Lake Balkal;

Explorations and field-work of the Smithsonian Institution in 1912—Continued.

Dr. W. L. Abbott's operations in Cashmere; zoological expedition of Dr. Theodore Lyman to the Altai Mountains, Siberia and Mongolia; a search in eastern Asia for the race that peopled America; results of Mr. Paul J. Rainey's East African hunting expedition; the Smithsonian expedition to Algeria for the study of the heat of the sun; anthropological researches on St. Lawrence Island, Alaska; hunting and trapping on the Alaska-

Explorations and field-work of the
Smithsonian Institution in 1912—
Continued.

Canadian boundary; geological explorations in the Canadian Rockies; field-work of the Bureau of American Ethnology in 1912; observations on birds and their nests in Newfoundland and Labrador, by Mr. A. C. Bent; a newly-discovered cave deposit near Cumberland, Maryland; collecting fossil echinoderms in the Appalachian Valley and in

Explorations and field-work of the
Smithsonian Institution in 1912—
Continued.

Missouri; field-studies along the Patuxent and Potomac Rivers, Chesapeake Bay, and the North Carolina coast; observations on mollusks among the Bahama Islands and the Florida Keys; completion of the Smithsonian biological survey of the Panama Canal Zone; botanical observations by Dr. J. N. Rose in Europe and in Kansas.

MISCELLANEOUS.

CLARK, AUSTIN HOBART. Nocturnal
animals.

*Journ. Washington Acad.
Sci.*, 4, No. 6, Mar.
19, 1914, pp. 139-
142.

The faunal and paleogeographical significance of noc-

CLARK, AUSTIN HOBART—Continued.

turnal as opposed to diurnal animals, and the correspondence between the former and the animals of the deep sea, are discussed.



**ANNUAL REPORT
OF THE BOARD OF REGENTS OF THE
SMITHSONIAN INSTITUTION**

**SHOWING THE OPERATIONS, EXPENDITURES
AND CONDITION OF THE INSTITUTION FOR
THE YEAR ENDING JUNE 30**

1915

**REPORT OF THE
U. S. NATIONAL MUSEUM**



**WASHINGTON
GOVERNMENT PRINTING OFFICE
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UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF THE SMITHSONIAN INSTITUTION,
Washington, D. C., October 22, 1915.

SIR: I have the honor to submit herewith a report upon the present condition of the United States National Museum and upon the work accomplished in its various departments during the fiscal year ending June 30, 1915.

Very respectfully,

RICHARD RATHBUN,
Assistant Secretary, in charge of the National Museum.

DR. CHARLES D. WALCOTT,
Secretary, Smithsonian Institution.

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REPORT ON THE PROGRESS AND CONDITION OF THE UNITED STATES NATIONAL MUSEUM FOR THE YEAR ENDING JUNE 30, 1915.

BY RICHARD RATHBUN,
*Assistant Secretary of the Smithsonian Institution,
in charge of the U. S. National Museum.*

INCEPTION AND HISTORY.

The Congress of the United States in the act of August 10, 1846, founding the Smithsonian Institution recognized that an opportunity was afforded, in carrying out the large-minded design of Smithson, to provide for the custody of the museum of the Nation. To this new establishment was therefore intrusted the care of the national collections, a course that time has fully justified.

In the beginning the cost of maintaining the museum side of the Institution's work was wholly paid from the Smithsonian income; then for a time the Government bore a share, and during the past 39 years Congress has voted the entire funds for the expenses of the museum, thus furthering one of the primary means "for the increase and diffusion of knowledge among men" without encroaching upon the resources of the Institution.

The museum idea was inherent in the establishment of the Smithsonian Institution, which in its turn was based upon a 10 years' discussion in Congress and the advice of the most distinguished scientific men, educators, and intellectual leaders of the Nation of 70 years ago. It is interesting to note how broad and comprehensive were the views which actuated our lawmakers in determining the scope of the Museum, a fact especially remarkable when it is recalled that at that date no museum of considerable size existed in the United States, and the museums of England and of the continent of Europe were still to a large extent without a developed plan, although containing many rich collections.

The Congress which passed the act of foundation enumerated as within the scope of the Museum "all objects of art and of foreign and curious research and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United

States," thus stamping the Museum at the very outset as one of the widest range and at the same time as the Museum of the United States. It was also appreciated that additions would be necessary to the collections then in existence, and provision was made for their increase by the exchange of duplicate specimens, by donations, and by other means.

If the wisdom of Congress in so fully providing for a museum in the Smithsonian law challenges attention, the interpretation put upon this law by the Board of Regents within less than six months from the passage of the act can not but command admiration. In the early part of September, 1846, the Regents took steps toward formulating a plan of operations. The report of the committee appointed for this purpose, submitted in December and January following, shows a thorough consideration of the subject in both the spirit and letter of the law. It would seem not out of place to cite here the first pronouncement of the board with reference to the character of the Museum:

"In obedience to the requirements of the charter,¹ which leaves little discretion in regard to the extent of accommodations to be provided, your committee recommend that there be included in the building a museum of liberal size, fitted up to receive the collections destined for the Institution. * * *

"As important as the cabinets of natural history by the charter required to be included in the Museum, your committee regard its ethnological portion, including all collections that may supply items in the physical history of our species, and illustrate the manners, customs, religions, and progressive advance of the various nations of the world; as, for example, collections of skulls, skeletons, portraits, dresses, implements, weapons, idols, antiquities, of the various races of man. * * * In this connexion your committee recommend the passage of resolutions asking the cooperation of certain public functionaries and of the public generally in furtherance of the above objects.

"Your committee are further of opinion that in the Museum, if the funds of the Institution permit, might judiciously be included various series of models illustrating the progress of some of the most useful inventions; such, for example, as the steam engine from its earliest and rudest form to its present most improved state; but this they propose only so far as it may not encroach on ground already covered by the numerous models in the Patent Office.

"Specimens of staple materials, of their gradual manufacture, and of the finished product of manufactures and the arts may also, your

¹ Since the Institution was not chartered in a legal sense, but established by Congress, the use of the word "charter" in this connection was not correct.

committee think, be usefully introduced. This would supply opportunity to examine samples of the best manufactured articles our country affords, and to judge her gradual progress in arts and manufactures. * * *

"The gallery of art, your committee think, should include both paintings and sculpture, as well as engravings and architectural designs; and it is desirable to have in connexion with it one or more studios in which young artists might copy without interruption, being admitted under such regulations as the board may prescribe. Your committee also think that, as the collection of paintings and sculpture will probably accumulate slowly, the room destined for a gallery of art might properly and usefully meanwhile be occupied during the sessions of Congress as an exhibition room for the works of artists generally; and the extent and general usefulness of such an exhibit might probably be increased if an arrangement could be effected with the Academy of Design, the Arts Union, the Artists' Fund Society, and other associations of similar character, so as to concentrate at the metropolis for a certain portion of each winter the best results of talent in the fine arts."

The important points in the foregoing report are (1) that it was the opinion of the Regents that a museum was requisite under the law, Congress having left no discretion in the matter; (2) that ethnology and anthropology, though not specially named, were yet as important subjects as natural history; (3) that the history of the progress of useful inventions and the collection of the raw materials and products of the manufactures and arts should also be provided for; (4) for the gallery of art the committee had models in existence, and they proposed, pending the gathering of art collections, which would of necessity be slow, to provide for loan exhibitions by co-operating with art academies and societies.

In the resolutions which were adopted upon the presentation of the report, a museum was mentioned as "one of the principal modes of executing the act and trust."¹ The work was to go forward as the funds permitted, and, as is well known, the maintenance of the Museum and the library was long ago assumed by Congress, the Institution taking upon itself only so much of the necessary responsi-

¹ *Resolved*, That it is the intention of the act of Congress establishing the Institution, and in accordance with the design of Mr. Smithson, as expressed in his will, that one of the principal modes of executing the act and the trust is the accumulation of collections of specimens and objects of natural history and of elegant art, and the gradual formation of a library of valuable works pertaining to all departments of human knowledge, to the end that a copious storehouse of materials of science, literature, and art may be provided which shall excite and diffuse the love of learning among men, and shall assist the original investigations and efforts of those who may devote themselves to the pursuit of any branch of knowledge.

bility for the administration of these and subsequent additions to its activities as would weld them into a compact whole, which together form a unique and notable agency for the increase and diffusion of knowledge, for the direction of research, for cooperation with departments of the Government and with universities and scientific societies in America, and likewise afford a definite correspondent to all scientific institutions and men abroad who seek interchange of views or knowledge with men of science in the United States.

Since that early day the only material change in the scope of the Government Museum has been the addition of a department of American history, intended to illustrate by an appropriate assemblage of objects the lives of distinguished personages, important events, and the domestic life of the country from the colonial period to the present time.

The development of the Museum has been greatest in those subjects which the conditions of the past 64 years have made most fruitful—the natural history, geology, ethnology, and archeology of the United States, supplemented by many collections from other countries. The opportunities for acquisition in these directions have been mainly brought about through the activities of the scientific and economic surveys of the Government, many of which are the direct outgrowths of earlier explorations, stimulated or directed by the Smithsonian Institution. The Centennial Exhibition of 1876 afforded the first opportunity for establishing a department of the industrial arts, of which the fullest advantage was taken, but the department or gallery of the fine arts made little progress, though not from lack of desire or appreciation, until nine years ago, when circumstances led to its definite recognition.

While it is the primary duty of a museum to preserve the objects confided to its care, as it is that of a library to preserve its books and manuscripts, yet the importance of public collections rests not upon the mere basis of custodianship nor upon the number of specimens assembled and their money value, but upon the use to which they are put. Judged by this standard, the National Museum may claim to have reached a high state of efficiency. From an educational point of view it is of great value to those persons who are so fortunate as to reside in Washington or who are able to visit the Nation's capital. In its well-designed cases, in which every detail of structure, appointment, and color is considered, a selection of representative objects is placed on view to the public, all being carefully labeled individually and in groups. The child as well as the adult has been provided for and the kindergarten pupil and the high-school scholar can be seen here supplementing their class-room games or studies. Under authority from Congress the small colleges and higher grades of schools and academies throughout the land, especially in places

where museums do not exist, are also being aided in their educational work by sets of duplicate specimens, selected and labeled to meet the needs of both teachers and pupils.

Nor has the elementary or even the higher education been by any means the sole gainer from the work of the Museum. To advance knowledge, to gradually extend the boundaries of learning, has been one of the great tasks to which the Museum, in consonance with the spirit of the Institution, has set itself from the first. Its staff, though chiefly engaged in the duties incident to the care, classification, and labeling of collections in order that they may be accessible to the public and to students, has yet in these operations made important discoveries in every department of the Museum's activities, which have in turn been communicated to other scholars through its numerous publications. But the collections have not been held for the study of the staff nor for the scientific advancement of those belonging to the establishment. Most freely have they been put at the disposal of investigators connected with other institutions, without whose help the record of scientific progress based upon the material in the Museum would have been greatly curtailed. When it is possible to so arrange, the investigator comes to Washington; otherwise such collections as he needs are sent to him, whether he resides in this country or abroad. In this manner practically every prominent specialist throughout the world interested in the subjects here well represented has had some use of the collections and thereby the National Museum has come to be recognized as a conspicuous factor in the advancement of knowledge wherever civilization has a foothold.

SUMMARY OF THE DEVELOPMENT OF THE MUSEUM AND OF RECENT ACTIVITIES.

The national collections originated in the 'extremely rich and varied series of specimens obtained during the four years' cruise of the United States Exploring Expedition, from 1838 to 1842, which, with many other objects, were exhibited in the great hall of the Patent Office for nearly two decades. In 1850 the Smithsonian Institution commenced to assemble material for investigation, inaugurating and cooperating in explorations for this purpose, chiefly in connection with Government surveys, but it was not until 1858 that the two collections were brought together under the perpetual custody of the Institution, in accordance with the terms of its foundation. The Smithsonian building had only recently been completed, which was partly responsible for this delay, and in this structure the main hall was allotted to the display of specimens, the basement furnishing quarters for laboratories and for the storage of study series. At the end of 20 years, however, practically the entire building with the exception of its eastern wing had not only passed to the use of the Museum but had become greatly overcrowded. Up to this time the collections had related almost wholly to natural history and anthropology.

The first of the buildings erected for purely museum purposes, a necessity forced upon the Government by the extensive donations received at the Centennial Exhibition of 1876, was made ready for occupation in 1881. The nature of the collections afforded by this Exhibition, and of others elsewhere obtained, rendered possible the organization of several divisions of the industrial arts, as already intimated and as designed by the first board of regents, to which was added a department of American history. The development of these branches was soon largely checked, however, and some of the more important were temporarily abandoned, because of the overflow of natural history and anthropological material from the Smithsonian building.

Nearly 30 years more elapsed before relief was again secured through the building of the superb granite structure on the northern side of the Mall. Designed for the departments of biology, geology, and anthropology, and wholly required for their collections and activities, it has still been necessary to provisionally assign a certain amount of space to other purposes, as, for instance, to the National Gallery of Art. Among other advantages, this newest building is so

arranged as to bring the public into closer relations with the objects of the Museum and to give greater popularity to its rich stores, through a more effective installation of its exhibits, and through the accommodations afforded for displaying loan collections and for meetings and lectures.

Already filling to the extreme limit the area that can be granted it, the National Gallery of Art is greatly in need of an appropriate and adequate home, and, unless this be shortly provided it may be expected that benefactors will cease to regard it with favor, as some have in the past, because of inability to take care of extensive collections. In view of one of the very first mandates of the fundamental act, that ample provision be made for a gallery of art, it is hoped that a satisfactory solution of this problem may soon be reached. While on this subject it is pleasing to note that Mr. Charles L. Freer has made progress with his plans for housing at his expense the rich collection of American and oriental art of which he has made a present to the people of the United States. This structure, to be of white marble and belong to the cluster of Museum buildings, is designed solely for the above purpose, however, and will afford no accommodations for other parts of the Gallery.

With the broad subject of natural history provided for in the granite building, the two other buildings become wholly available for the arts and industries, with a single exception. The division of plants, including the National Herbarium, has been given possession of the upper story of the main section of the Smithsonian building, a hall 200 feet long by 50 feet wide, with some connecting rooms. This important branch has thus far been well accommodated in these quarters, but it is not expected to be so for long, as the collections are growing rapidly and the work is of great economic importance, especially in its relations to the Department of Agriculture, of whose botanical materials it is the custodian. In other countries the national herbarium is given great prominence, yet nowhere else is its significance as great as in this country.

On the ground floor of the Smithsonian building are three principal subdivisions of space, the great main hall, the western hall and the connecting range. All of these have been assigned to the exhibition of the graphic arts, but owing to the renovation of the main hall, still in progress, the collections relating to this subject have been placed in some disorder. Under this heading are included not only the higher grades of engraving, printing and binding, but also all processes of reproduction down to the methods of rapid illustration resorted to by the newspapers of to-day.

It is in the older Museum building that interest in the matter of new exhibits chiefly centers, though no subjects have yet been intro-

duced that were not recognized in the classification of 1881, or to some extent represented in the public displays of 25 to 30 years ago. Most prominent and most popular is the historical collection to which access is first gained from the main entrance. The memorial section, which occupies two halls, has been steadily increasing in importance and comprehensiveness for a long period. A recent addition has been a section of historical costumes, and also now for the first time have the extensive series of coins, medals and postal tokens been fully installed.

While consisting mainly of loans, the exquisite assemblage of laces and other art textiles has come to be regarded as a permanent feature, and, in fact, it contains possessions of the Museum, especially in laces, of considerable variety and value. In what is called the ceramic gallery is displayed a large quantity of pottery, together with glassware, ivories, bronzes, lacquers, etc., which, while unworthy as a whole for a national museum, comprises some choice pieces and in some directions is comprehensive though not wholly representative. Adjoining is the exhibition of medicines, magic, psychic, and aboriginal, as well as those recognized in modern pharmacology, forming an interesting object lesson for the public, though more important is the reserve collection of thoroughly identified drugs and drug plants of the world. Also installed in this building is the general and varied collection of musical instruments, and the unrivaled representation of the history of photography, in which the appliances and results of all periods are fully and well shown. Close by is another collection which is probably unsurpassed in this country—a remarkably rich assemblage of the objects of religious ceremonial, of wide range in its illustration and of great educational value.

When, in the temporary dismantlement of many of the industrial branches over 20 years ago, it became necessary to place vast quantities of material in storage, certain classes of objects were allowed to remain, being administered under the head of mechanical technology. The collections of this division have grown to a remarkable extent, and in some directions with such systematic effort as to result in historical series of inestimable importance. In other directions, however, through lack of means, it has been impossible to make any appreciable advancement, and for the same reasons and because of inadequate space it has been equally impossible to display or otherwise utilize all of this rather heterogeneous combination to the fullest advantage of the public. In electricity there is a very extensive representation of the history of the telegraph, including the oceanic cables, of the telephone, of the phonograph, etc., including hundreds of pieces of original experimental apparatus and of appliances that were actually employed at the very beginnings and at subsequent periods of these several lines of notable achievement. In small fire-

arms the collection is the most complete in this country. Among measuring devices, watch movements are especially to be noted. Land transportation is illustrated from the primitive forms, mostly shown by models, to the highly specialized methods of the present time, noteworthy features of the series being the first locomotive brought to this country, the application of electricity, and the invention of the gasoline automobile, of which the Museum possesses the first machine. The earliest successful experiments with the aerodrome are most effectively represented by examples of the Langley model forms which made actual flights, and by the first aeroplane purchased and used by any government. In marine navigation the primitive and early stages are well shown, as are also the beginnings of the use of steam and the development of sailing craft in this country down to a period of some 30 years ago. But the above fails to give anything like an adequate idea of the variety of invention in all the various fields covered by human ingenuity which are demonstrated by the collections of the division.

Among the recently reorganized divisions are those of textiles and mineral technology, which are being built up on entirely new lines. For the former much of the material which had been in storage was found to be not only still presentable, but also of much historical significance. For the latter there was practically nothing from the old collections that could be used. Under the division of textiles have likewise been included, whether temporarily or permanently future circumstances will determine, several of the most important of the world's industries, having more or less close relations with the main subject from the nature of the substances involved, consisting of such animal and vegetable products as are not specifically assignable elsewhere in the Museum classification. Wood technology is one of these, offering a very wide field for educational presentation. Foodstuffs, which result from and give rise to the greatest of all industries, form another, and after these come miscellaneous products, such as skins, furs, feathers, ivory and bone, pearl and sponges, in endless number and variety. In the first of these divisions attention has thus far been almost wholly directed to the development of the textile collections which are already very rich in manufactured, and to some extent in hand made, products in every line and in every character of fiber, both native and foreign. It is the purpose to show the origin of the natural products, as the making of the silk cocoon, the growth of cotton and the taking of wool from the sheep, and thence to demonstrate each step in the process of spinning, weaving, coloring and decorating down to the finished fabric, and even to the garment ready for wear and utilization in other ways. Besides samples of standard goods and of every class of

novelties, there are being introduced into the collections machinery and appliances both of historic interest and of modern invention to illustrate the methods of manufacture, some of the latter being adapted for operation in public view, this being especially the case at present in regard to cotton, in which the processes can actually be carried on from the gin to the loom. While the subject of textiles has been mainly promoted with reference to popular education, the division is accumulating a reserve series which in time will be of much service to manufacturers, as detailing the successive steps in the methods and results of production for a considerable term of years.

The section of wood technology was only organized near the close of last year. Though comprehended in the former division of forestry, very little material of public or even technical interest had been assembled. The action which the Museum is now taking toward bringing this subject to the front has been strongly advocated by the leading industrial journals for some years and has the support of prominent producers and users of wood throughout the country. The development of the collection will extend to all features of practical significance pertaining to the industry. The first principal step is in the direction of securing a representation of all kinds of woods obtainable in this country and abroad that are useful for any purpose from the most humble to the most refined, the same to be surface finished in the several ways appropriate to each. It is promised that the current year will show marked progress with the series. Besides these samples, there are to be gathered illustrations of the various purposes to which wood is put, its miscellaneous products and extracts, manufacturing processes, etc., which, together with the records that should accompany such a collection, will make the section of wide practical utility.

With regard to miscellaneous animal and vegetable products very little progress has been made beyond installing such of the former collections as were found in good condition, though in a few subjects some important materials have been added. The old collection of foods had so deteriorated in storage that only a small part can be used, except in the matter of Indian foods, which could not be replaced, and which are, fortunately, mainly preserved.

In mineral technology, the former collection of metallurgical products has given place to an entirely new scheme of presentation of the great industries which are covered by this division. The minerals and ores in all their varieties are included in the department of geology in the new building and are not duplicated here except where necessary to specifically illustrate an industrial process or feature. It is the aim of the division, whose collections will be mainly on exhibition, to illustrate the manner of occurrence of all minerals of

economic importance, the methods of mining or extraction from the ground, the processes of manufacture and refining, and the finished products, including the by-products. As will be realized, this plan must chiefly be carried out by means of models, occupying the bulk of the exhibition space and constituting a series of features so striking and so replete with novelties as to furnish a most effective object lesson not only for the casual visitor but for the student and expert as well. The installations so far made indicate the great possibilities of the future in teaching, as clearly and truthfully as is possible within the limited compass of a museum, the varied activities attendant upon the preparation of mineral substances for the use of man. The main details of the entire plan were outlined in advance, and though only started within a short time, the work has gone forward so rapidly that a large number of the prominent exhibits are already completed and placed. These have served to so arouse the interest and secure the aid of mining and manufacturing companies that still greater progress may be expected hereafter.

Besides the collections, the division is assembling the information necessary for the preparation of descriptive accounts of the several mineral industries, which cannot fail to be of great service in technological teaching.

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OPERATIONS OF THE YEAR.

APPROPRIATIONS.

The items of appropriation for the maintenance and operations of the National Museum for the year covered by this report, namely, from July 1, 1914, to June 30, 1915, contained in the sundry civil act approved August 1, 1914, were as follows:

Preservation of collections.....	\$300, 000
Furniture and fixtures.....	25, 000
Heating and lighting.....	46, 000
Building repairs.....	10, 000
Purchase of books.....	2, 000
Postage	500
Printing and binding.....	37, 500
Total	421, 000

BUILDINGS AND EQUIPMENT.

As explained in previous reports, both the roofs and skylights on the new building developed serious and extensive defects which were first observed at an early date, and much work has been done from time to time toward remedying these conditions. During last year it was necessary to refasten 4,018 lineal feet and to replace with new material 116 feet of the copper roofing. Following an experiment made the previous year, one entire side of the large skylight over the north wing was remodeled, and, it is thought, in a manner that will prove satisfactory. The original construction was so faulty and inadequate, however, as to require the substitution of new cross and condensation gutters, new copper cap and glass rests, heavier lead washers under the nuts of the bolts, and thicker strips of lead between the glass and the ribs. The section attended to represents only one-sixth of the skylight area, all of which should receive the same treatment. The exterior of the metal frames of all the large windows in the first and second stories of the new building were given a coat of aluminum paint.

In the older Museum building about 4,000 square feet of unprotected ceiling, mainly in the courts, were covered with beaded sheet metal, the same as has been used elsewhere, to prevent the falling of old and decomposed plaster. The terra cotta and marble floors in the rotunda and main halls, which had become badly worn and broken, were extensively repaired, requiring the replacing of about 1,000 of

the tiles and marble slabs. There was much to do in the pointing up and painting of walls and ceilings, and the tin roofs over the various sections of the building were treated with flexible metallic paint. The old cement water table along the western side of the building was replaced with granolithic pavement for half its length.

The principal repairs in the Smithsonian building under the regular appropriation consisted in the replacing of certain badly rotted or wornout floors in the basement and in the second story of the main structure. More extensive and important repairs and alterations, however, were carried on under specific appropriations, one having reference solely to the exterior, the other to the interior of the building. Under the first, the stone walls were thoroughly pointed up with cement mortar, the original lime mortar used 65 years ago having lost its strength, and in many places having been entirely washed out between the stones; loose stones, which occurred abundantly in the battlements, were reset, broken ones being replaced; the roofs at the east end of the building and on several of the towers were repaired or replaced, and new finials of aluminum were provided for three of the latter; a large number of windows were repaired or rebuilt; the areaways were repaired and most of the entrance steps were reset; and a granolithic water table was laid along the north and west sides of the building where the foundations were not protected by areaway constructions. The above repairs were very necessary to the preservation of the Smithsonian building, of which the exterior masonry and the windows have given much concern for a long time. Sections of this building were completed in succession between 1848 and 1855, since which latter date the exterior walls, except to a limited extent, have never received any serious attention. Following the great fire of 1865 the walls of the main section of the building were carefully scrutinized and were in part reinforced, but evidences of the ravages of the fire have been plainly apparent until now.

The other changes in the Smithsonian building specifically authorized by Congress have been in progress during two years and will not be completed until some time in the current year. They relate entirely to the main hall, which was fitted up under an act of Congress for the first exhibitions by the National Museum in 1857 and 1858, since which time there had been no essential alteration in the arrangements. The room was originally provided with a gallery and with series of cases on the two floors thus formed, both of which were instrumental in cutting off a large part of the light from the middle portion of the room. The upper exhibition cases were removed some years ago, but without a very measurable effect. In accordance with the plans now being carried out, the galleries have been entirely removed, as have also all fixed exhibition cases. Steel book stacks

have been erected at each end, extending to the ceiling and encroaching upon the floor space to an extent of 59 feet. Steel bookcases also occupy the wall space on both sides of the remaining area, but there is left a grand hall 141 feet long by 50 feet wide, broken only by the two longitudinal rows of large piers joined by arches above. The nave and aisles thus formed will be available for Museum exhibits as heretofore, though not to the same extent.

As has been customary for several years, the steam and power plant was shut down during the months of July and August to permit of the uninterrupted repair and cleaning of the plant, the electric current required during that period being supplied by one of the local power companies at the low rate of $2\frac{1}{2}$ cents per kilowatt hour. The repairs called for were mostly unimportant, but considerable changes were made in the steam connections with the older buildings. By the introduction of a reducing and other valves the steam pressure in those buildings has been reduced from 100 to 60 pounds, resulting in an appreciable saving in the amount of steam consumed, and permitting the keeping on of steam in those buildings continuously throughout the cold weather. This latter advantage has made it possible to eliminate a considerable proportion of the radiators in the older Museum building, while in the Smithsonian building the radiator system in the main hall was entirely changed to accommodate it to the other alterations there in progress. Improvements were also made in the heating conduits to the older and outlying buildings. The total amount of coal used for both heating and electric generating purposes was 2,989 tons.

It is gratifying to note a considerable reduction in the cost of producing electric current during the year, which was at the rate of 2.4208 cents per kilowatt hour, as compared with 2.736 cents the previous year. This was owing to the lower price of coal and to a more uniform electric load. The ice plant also continued to work satisfactorily and economically, 302 tons of ice having been produced at a total expense of \$716.21, or at the rate of \$2.37 a ton. The fire apparatus was maintained in good condition, and additional extinguishers were provided for the older buildings. The ventilation of the public toilet rooms in the basement of the Smithsonian building having been noticeably imperfect, new ducts were constructed, connected with the old smoke flue from the furnace, and a fan for producing forced draft was introduced, which will greatly improve the conditions. The motors attached to the large ventilating fans in the attic of the new building have given such constant trouble that steps were under way at the close of the year to replace them with others of an improved pattern. Many minor changes and improvements were made in connection with the plumbing, especially in the matter of furnishing hot water for the comfort

rooms and domestic purposes during the period when the heating boilers are not in operation. Sanitary fountains similar to those placed some time ago in the new building, but of a somewhat simpler design, were installed in the older buildings, and the use of drinking cups by visitors has been discontinued.

The principal articles of furniture acquired during the year consisted of 18 exhibition cases, 193 storage cases and pieces of laboratory furniture, 58 pieces of office and miscellaneous furniture, 2,158 wooden unit drawers, 500 insect drawers and 508 drawers of special construction. These were partly obtained by contract and partly built in the Museum shops. A very important part of the work, mostly done in the Museum shop, consisted in the remodeling of old cases, especially for the art-industrial collections. Repair work was also extensive, as was the construction of exhibition bases and of furnishings and fittings for the interior of cases. A number of articles were condemned and disposed of as of no further use or value, among these having been the exhibition cases erected in 1857 in the main hall of the Smithsonian building, as before mentioned. An inventory of the principal furniture on hand at the close of the year shows 3,483 exhibition cases, 7,018 storage cases and pieces of laboratory furniture, 3,414 pieces of office and miscellaneous furniture, 42,214 unit specimen drawers of wood, 4,712 unit specimen drawers of steel, 8,939 insect drawers, and 17,902 miscellaneous specimen drawers and boxes of various kinds.

COLLECTIONS.

The additions to the collections, received in 1,481 accessions, aggregated approximately 304,647 specimens, not including loans. These specimens were apportioned among the several branches of the Museum to which they pertained as follows: Anthropology, 15,140; zoology, 101,928; botany, 51,295; geology and mineralogy, 4,063; paleontology, 129,981; textiles and animal and vegetable products, 1,511; mineral technology, 607; National Gallery of Art, 122. The divisions most favored by increases in point of numbers were paleontology, with nearly 130,000 specimens; marine invertebrates, with over 70,000 specimens; and plants, with over 51,000 specimens; but in other subjects the additions were also large and valuable, the philatelic collection having been enriched by 8,508 stamps, stamped envelopes and postal cards. The loans totaled 1,760 objects, of which 125 consisted of paintings and sculptures for the National Gallery of Art; 200, of laces, embroideries, tapestries, etc., for the art textile collection; and 176, of articles for the historical costume collection; the remainder having been accepted for exhibition mainly in the divisions of history, ethnology, the graphic arts and ceramics.

The number of separate lots of material received for examination and report amounted to 790, of which about 64 per cent were geological and 28 per cent biological.

DEPARTMENT OF ANTHROPOLOGY.

Ethnology.—Thirty-nine accessions, comprising 1,457 specimens, constituted the additions to this division. Gifts were more numerous than usual, the more important ones being the following: From the Misses Elizabeth L., Mary and Grace Lyon, of Baltimore, Md., 641 examples of Japanese art assembled about 30 years ago by the late J. Crawford Lyon, and consisting of helmets, helmet crests and face pieces, stirrups, spears, staffs, sword guards and ornaments, knife handles, etc.; from Dr. W. L. Abbott, a series of baskets, bark cloth, sword hilts in process of making, quivers for blowgun darts, musical instruments, and other objects, collected in Dutch Borneo by Mr. H. C. Raven; from Mr. Herbert E. Winlock, of the Metropolitan Museum of Art, examples of modern Egyptian clothing collected by the donor; and from Mrs. Estelle Palmer, of Chicago, Ill., a collection of objects from the Plains Indians, including an historical painting on elk skin, a curious old saddle, bow, arrow, knives, ornaments, etc., which had belonged to the late Maj. George Henry Palmer, U. S. Army. An important addition, obtained by purchase, consists of musical instruments, household articles, tools and other objects from the Ute Indians of the Uintah and Ouray Reservation, southeastern Utah, which are especially valuable on account of the care with which they were brought together.

The principal loans comprised ornaments, costumes, pouches, baskets, a chicken trap, a two-headed drum and a variety of weapons, from the Bagobo tribe of southern Mindanao, P. I., received from Miss Elizabeth H. and Miss Sarah S. Metcalf, of Worcester, Mass.; ethnological objects from Abyssinia, consisting of a number of royal presents given to the lender during his stay at the Court of Menelek, such as spears, silver overlaid shields, a dagger, basket, ornaments, etc., received from Mr. Hoffman Philip; and a large series of ethnological and historical material, besides objects of art, from Japan, China, Egypt and Europe, received from Mrs. Allan McLane, of Washington.

The most important work of the year was the preparation of exhibits for the Panama-Pacific Exposition at San Francisco, all of which will be returned to the Museum. The principal features are four family lay-figure groups, corresponding in type to those now exhibited in the Museum, and representing the Carib Indians of British Guiana, the Dyaks of Borneo, the Zulu-Kaffirs of South Africa and the western Eskimo. Accompanying them are ten village groups,

four illustrative of the tribes mentioned and the others of the Iroquois, the Navaho, the Seminoles, the Chippewa, the Samoans and the Hawaiians. In addition to these, there are a large number of aboriginal objects and several synoptic series designed to represent the development of the knife, the saw, the European and American ax, the spindle, the shuttle and fire-making apparatus. Fifty-two lantern slides of Museum exhibits in the department of anthropology were also made for use in a stereomotorgraph.

Investigations relative to the material culture of the Hopi as exemplified in the collections were conducted by the curator of the division, Dr. Walter Hough. This work is an elaboration of the catalogues of the late James Stevenson, extended by the subsequent information acquired by the curator both in museum and field research. He also made a special study of the effect of the discovery of fire-making methods on the early distribution of man, the results of which have been prepared for publication. Dr. Gudmud Hatt, of Copenhagen, made a study of the arctic clothing in the collection. Other distinguished ethnologists from abroad who visited the Museum were Dr. R. R. Marett, Dr. W. H. R. Rivers, Mr. E. Sidney Hartland and Miss Adele Breton, of England; and Dr. F. von Luschan, of Berlin, Germany.

American archeology.—The most noteworthy accession of the year was a large collection of American archeological specimens, obtained in exchange from the Panama-California Exposition, consisting of implements and other objects of stone, hematite and copper from various localities in the United States, and specimens of obsidian, copper and terra cotta from Mexico. Among the more important items are a series of the large chipped blades of chert (agricultural implements) from the Ohio and Mississippi valleys, including both oval and notched types and many showing the high polish due to long continued use; chipped disks, thin leaf-shaped blades, spearheads, arrowpoints, drills, scrapers, etc., mainly from the western States although the eastern and southern States are also represented; a cache of 44 rhyolite blades from North Carolina; large polished stone celts or hatchets from Illinois, discoidal stones from Illinois and Tennessee, a bannerstone from Missouri, and a drilled amulet from Tennessee. Many specimens from the United States and Mexico were likewise received in exchange from the Naturhistoriska Riksmuseum, Stockholm, Sweden. Those from the United States consisted of large stone celts, grooved axes and adzes, bannerstones, discoidal stones, hematite axes and celts, large chert blades, oval and notched agricultural implements, spearheads, arrowpoints, scrapers, stone pestles, etc.; while those from Mexico comprised stone celts, carved stone pendants, blades, scrapers, etc., of obsidian and flint, terra cotta molds, stamps, and spindle whorls.

A collection from the Lower Mimbres Valley, N. Mex., transferred by the Bureau of American Ethnology, contains a quantity of pottery displaying a distinct type of decoration and therefore constituting a valuable addition. A bannerstone of rose quartz, a very remarkable Indian relic and probably one of the finest examples of its kind yet brought to light, found on the farm of Mr. W. E. Trice, Woodruff County, Ark., was obtained by purchase, as were three metal objects, one of gold and two of gilded copper, from Chiriqui, Province of Panama, the first a bird image, the other two consisting of two figures connected by wire scroll work and a winged figure also with wire scroll work. There were two principal gifts. The first consisted of a remarkable jade ax, one of the largest pieces of worked jade so far received by the Museum, from Alta Verapaz, Guatemala, a small stone celt from Ahuachapan, San Salvador, and a clay figurine from Tepecoyo, in the same country, presented by Mr. Emilio Mosonyi, of San Salvador. The other was a large pottery vase from a mound in Marion County, Tenn., donated by Mr. Clarence B. Moore, of Philadelphia, Pa.

The condition of the display and study collections was much improved. A number of new acquisitions and many specimens selected from the reserve series were added to the exhibition series and several new cases were installed. Three groups illustrating aboriginal quarry and mining methods, namely, a soapstone quarry group, an iron-paint mining group, and a copper mining group, were completed. They are shown in large floor cases and not only make an attractive display but are of much educational value.

The head curator, Mr. William H. Holmes, who retains personal charge of the American archeological collections, continued his study of the stone implements, with the view of embodying the results in the Handbook of American Antiquities in preparation for publication by the Bureau of American Ethnology.

Old World archeology.—Of 8 accessions, the most important were an exchange and a gift. The former, from Dr. A. Rutot, of the Royal Museum of Natural History at Brussels, consisted of 90 Neolithic stone implements from Belgium, representing the first epoch of polished stone culture in Europe, known as the "Spennian," and serving to round out the prehistoric series from that country. The latter, from Mr. Herbert E. Clark, of Jerusalem, was composed of 19 stone implements, hand axes of the Acheulean type, chisels, etc., forming a valuable addition to the present collection from Palestine.

The routine work consisted mainly in perfecting the exhibition collections and preparing labels. The latter included especially a series descriptive of the various groups which, with the aid of the exhibits, serves to convey to the visitor a good idea of the character

and state of advancement of the several phases of prehistoric culture from the known beginnings down to the beginning of the Iron Age in the Lake-dwelling and Terramare periods. The prehistoric remains from Italy were installed and labeled. On a screen placed in the north court were mounted, on one side, the drawing of the mosaic map of Palestine, and, on the other, the Canopus Stone and two other Egyptian reliefs, representing ancient Egyptian sledges and boats and the human figures working them. The classification of the prehistoric reserve material and its arrangement in storage bases, begun the previous year, was completed.

Aside from the studies required for the appropriate recording and labeling of material, a descriptive account of the colored drawing of the ancient Medeba mosaic map of Palestine was prepared for publication by the assistant curator in charge of the division, Dr. I. M. Casanowicz.

Physical anthropology.—Skeletal material from a Minsi burial place on the Jersey side of the Delaware River opposite Minnisink Island, three miles below Montague, N. J., constituted one of the most complete and carefully recorded collections of such specimens so far acquired by the division. It was received as a gift from Mr. George G. Heye, of New York. Similar material from Alabama and Tennessee was contributed by Mr. Clarence B. Moore, of Philadelphia, Pa.; 8 prehistoric skeletons and 4 skulls from Bohemia were obtained from Prof. J. Matiegka, of the University of Prague; and 3 nearly complete and 4 partial human skeletons were collected in Montana by Mr. C. W. Gilmore, of the Museum staff. Dr. Aleš Hrdlička, curator, assembled 250 samples of hair from representatives of old American families and others; and Prof. R. R. Bean, of the Medical School of Tulane University, presented a large number of anatomical specimens.

The collections of the division are in excellent condition with respect both to preservation and accessibility, the reserve material, appropriately arranged in storage drawers, being reasonably safe from dust and deterioration. Much advance was made in the repair, cataloguing and study of the older collections. Twelve exhibition cases placed in the hallway of the third floor were installed with Indian busts and with series of specimens relating to early man, to development and variation in the brain and in the principal long bones, to variation in human hair, and to prehistoric American surgery of the skull.

During the early part of the year the curator gave largely of his time toward completing an anthropological exhibit for the Panama-California Exposition at San Diego, Cal., funds for which were provided by the exposition. His principal researches related to the valuable collection of skeletal material from New Jersey, presented by

Mr. George G. Heye, with which considerable progress was made; and to "Old Americans," or American families of at least three generations in this country, the latter being in continuation of work previously begun. One hundred males and the same number of females have been studied and a résumé of the results, intended for presentation at the forthcoming International Congress of Americanists, is in course of preparation.

Dr. Hrdlička was in San Diego, Cal., from November 18th to January 18th, installing the anthropological exhibits at the exposition, and he also lectured on subjects connected with his division in several western cities. Later in the year he visited a number of museums for the purpose of examining skeletal remains of eastern Indians, and made a trip to the White Earth and Leech Lake reservations in Minnesota for the Department of Justice, with the object of determining the proportion of pure and mixed bloods among the Chippewa Indians.

Mechanical technology.—The additions of the year, comprised in 40 accessions, included many articles of exceptional value. Of greatest interest was a collection of 280 pieces of experimental phonographic apparatus, and several relics connected with the early history of the telephone, the gift of Dr. Alexander Graham Bell. Among the other noteworthy acquisitions were many surveying instruments and 7 pocket chronometers of historical importance, transferred by the U. S. Coast and Geodetic Survey; 23 guns and 1 sword deposited by the Navy Department; 1 United States magazine rifle, deposited by the War Department; an equatorial sextant and solar compass presented by Miss Elizabeth B. Burt, of Washington; a sundial calculated for Valencia, Spain, the gift of Mr. Claude L. Woolley, of Baltimore, Md.; a gasoline automobile of date 1896, contributed by the Olds Motor Works, of Lansing, Mich.; a comptometer presented by the Felt and Tarrant Manufacturing Co., of Chicago, Ill.; a talking machine donated by the American Graphophone Company, of Bridgeport, Conn.; and 6 target rifles lent by the National Rifle Association of America.

Good progress was made toward perfecting the installation of the exhibition collections, in connection with which it was necessary to bring more recent acquisitions into proper relationship with earlier ones, and as a whole a more systematic arrangement of the material has been secured. Important readjustments were effected in the collections of telephone apparatus, talking machines, watches, railroad apparatus and firearms. Gratifying progress was also made in the labeling of exhibits and in collecting data required in perfecting the records.

Investigations relating to the various subjects coming within the scope of the division, by the curator, Mr. George C. Maynard, re-

sulted not only in securing many interesting specimens for the Museum but also in obtaining information regarding the existence of others which are especially desirable.

Musical instruments.—Last year was a signally propitious one for the section of musical instruments, which received from a single source, as described below, a much more extensive and far richer addition to its collection than ever before. The other accessions comprised a reed hand organ and a pianola with six music rolls, the gift of Mrs. Julian James, of Washington; a musical instrument, supposed to be Javanese, contributed by Mrs. John Crosby Brown, of New York; three violins used by G. Napoleone Carozzi, donated in his name by his widow, Mrs. Mary W. Carozzi, of Portland, Oreg.; and an old Maya drum, called Sacatan, presented by Mr. Arthur P. Rice, of Brookline, Mass.

The important contribution first referred to was a gift from Mr. Hugo Worch, of Washington, of a large series of antique pianos of both foreign and American make, including a number of examples manufactured during the latter part of the 18th century. It was about 25 years ago that Mr. Worch began the assembling of these instruments, with the view of preparing a history of the American pianoforte; and in order to secure to the public the permanent preservation of these valuable objects, which have been gathered without regard to time or expense, he generously tendered to the Museum the entire collection or such part of it as could be accommodated. In the selection that is being made, special attention is paid to those items of native makers whose reputations are closely linked with the progress and development of the American pianoforte industry. They illustrate particularly the important steps that have been taken, with such intermediate gradations as seem most worthy of being represented. During the year the installation has been steadily progressing, the first gallery in the rotunda of the new building having been assigned to this purpose. Seventy instruments have already been definitely selected, though not all of these had been delivered at the close of the year. As Mr. Worch has desired to have the cabinet work of all restored as nearly as possible to its original condition, it will be realized that some time must elapse before the entire arrangement can be perfected; but nevertheless a large part of the selection will be kept on view, whether restored or not. While only a few of the instruments remain in a playing condition, the mechanical parts are all sufficiently well preserved to demonstrate their character and variations.

To the instruments themselves will be added several hundred photographs, showing every phase of the pianoforte industry prior to 1850, making the collection the largest and most unique of its kind.

By this generous and public-spirited gift, Mr. Worch has made himself one of the notable benefactors of the Museum, and especially in a line in which the Museum has been particularly deficient. The public can scarcely fail to realize the significance of his donation, not consisting of isolated objects, however valuable they might be, but of a definite and well-ordered collection, illustrating by actual examples the history of an industry dear to the hearts of all civilized peoples.

We must wait upon Mr. Worch for a detailed account of his studies and his collection. Below is given a list of the instruments referred to, of which 46 are American and 24 European. It has been prepared from a preliminary catalogue furnished by the donor, and while neither descriptive nor comparative, it contains a few remarks of general interest. The foreign pianos have been allowed to precede those of American make as they furnish earlier dates, but in most cases it has been impossible to fix the dates with absolute definiteness. The foreign instruments are from Germany, and from Vienna, Austria; London, England; and Paris, France. The American are from Philadelphia, New York City, Baltimore, Boston, Cincinnati, Norwich, Conn., and Concord, N. H.

The list is as follows:

Germany and Austria.—A German square piano, maker's name unknown, about 1770; the instrument, which is richly inlaid and in fine condition, is a rare specimen of its class of work. *L. H. Mueller*, Bremen, German hammer clavier, No. 83, about 1785; a good type of German squares made at that time. *Martin Seuffert*, Vienna, upright piano, about 1812; pianos of this type, because of their peculiar shape, were known as "Giraffe Grand"; the maker gives notice on the name plate that this instrument was invented by him. Harmonium of unknown German make, about 1825. *Andre Stein*, Vienna, square, about 1833; Viennese action, of which Johann Stein, father of Andre, was the inventor. The two most popular foreign instruments in this country from 1825 to 1840 were those of Stein of Vienna, and Rosenkranz of Leipzig. Stein's reputation in Europe was proverbial for the excellence of his work, and the importation of Stein instruments into the United States exceeded that of any other foreign make.

London, England.—*Longman & Broderip*, two examples, both square, one about 1785, the other, No. 424, finished in 1796, the former being one of the earliest types of this establishment which was founded by James Longman in 1767. *Lodiner*, square, about 1785; the name is doubtless fictitious. *Cr. Ganer*, square, No. 456, about 1788; an excellent example of one of London's pioneer piano makers. *Culliford, Rolfe & Barrow*, two square pianos, one about 1790, the other about 1795. *Robert & William Gray*, square, about 1795. *Johannes Broadwood*, square, finished in 1798. The style of

action shown by this instrument, mop stick with individual brass dampers for each key, was copied by both Albrecht and Taws of Philadelphia in their earlier pianos, and they were perhaps the only American makers to adopt this system of damping. *John Broadwood & Sons*, makers to His Majesty and the Princesses, square, No. 420, about 1805. *William Southwell*, square, about 1805. This maker was noted for his many innovations in piano construction. *Astor & Co.*, square, No. 3243, about 1805. This firm was founded by George Astor at the beginning of the 19th century, and also dealt in brass instruments. *Clementi & Co.*, square, about 1810. *Thomas Tomkison*, maker to His Royal Highness, the Prince of Wales, square, about 1810. *Wilkinson & Wornum*, upright, No. 17, about 1810; one of the first small English uprights made. *Robert Wornum*, upright, about 1816. Wornum was the first to introduce the small upright, named by him the "piccolo." He was one of England's leading inventors, and many ingenious devices attributed to him were adopted by both foreign and American piano manufacturers. *Dale, Cockerill & Co.*, upright, No. 455, about 1825. *Collard & Collard*, square, about 1835.

Paris, France.—*Erard Frères & Co.*, square, finished in 1799; a choice example by these famous piano makers. *A. C. Debain*, about 1848; player piano without a keyboard, being operated with a hand lever, and the music being made on short boards into which steel pins are driven.

Philadelphia, Pa.—*Charles Taws*, two square pianos, one about 1790, the other, No. 22, finished in 1793, the latter showing notable improvement in workmanship over the former; continued piano making until 1833. *Charles Albrecht*, two square pianos, the first, No. 21, about 1790, the other about 1792; best known of the pioneer instrument makers in this country, and the examples in this collection show superior skill; retired in 1824. *John Sellers*, square, about 1794. This instrument is perhaps the only American make containing the rudimental German action, all early piano makers of this country having copied the English models. There is a doubt as to whether this instrument was actually the work of John Sellers, as its primitive construction antecedes any known American make. *Harper & Fagan*, square, about 1798. *Thomas & John Loud*, square, No. 80, about 1818. The name stencil reads: "square and grand pianoforte manufacturers, from London." Unlike most other makes of that time, the case is substantially constructed. *Emelius N. Scherr*, square, No. 2, about 1825. Scherr made pianos until 1852, and his instruments were noted for their general good workmanship and durability. On some he added to his name: "Late Maker to their Majesties, the King and Princess of Denmark." *Conrad Meyer*, square, No. 240, about 1827. This maker is said to have been the

first who succeeded in casting a full iron frame, in 1832, though there has been some controversy regarding this fact. He received a second prize at the great London Exhibition of 1851. Meyer pianos were made as late as 1888, at 1717 Chestnut Street, the business having been continued by the two sons of Mr. Meyer. *Loud & Brothers*, square, No. 912, finished December 3, 1830. The Louds were the most reputed piano makers of Philadelphia. *D. B. Grove*, square, about 1830. *Alpheus Babcock*, square, No. 1517, made at William Swift's pianoforte factory, Philadelphia, about 1835. This is a creditable example of Babcock's superior skill. It contains the iron frame patented by him in 1825, and well illustrates the advantageous use of iron to resist the tension of the strings, which are all intact, and to prevent the twisting or warping of the woodwork.

New York City.—*John Geib & Son*, square, about 1800. John Geib was the head of this well known family of piano makers, which was connected with the piano business until 1870. *Waites & Charters*, square, about 1805. This was one of New York's pioneer firms, coming from London. *John Kearsing & Sons*, square, about 1808; one of the best preserved instruments of the early part of the 19th century. The Kearsing family was affiliated with the piano industry until 1857, and consisted of John, senior and junior, George and Thomas. *Samuel Neilson*, about 1815, built on square lines. *Robb & Mundy*, square, about 1824; a neat and well made instrument. *William Geib*, square, No. 6662, about 1825; an exquisite piece of workmanship. *Robert & William Nunns*, three examples, namely, square, about 1826; upright, No. 1223, about 1833; upright, No. 1444, about 1840. Considered among the leading manufacturers of their period, and received a second prize at the great London Exhibition of 1851, where they also exhibited a square piano with an overstrung scale. No. 1223 is one of the first small, or piccolo, uprights made by an American firm. *Dubois & Stodart*, square, No. 243, about 1830. *Joseph Kohnle*, upright, about 1858; action constructed on entirely new lines and every individual part wholly original. Kohnle advertised himself as a pianist in 1856-57, and as a piano maker in 1858. An instrument similar in appearance, made by Pape, Paris, in 1839, is exhibited at one of the museums in Copenhagen. *Carhart, Needham & Co.*, double-bank melodeon, No. 4407, about 1858.

Baltimore, Md.—*Walker*, square, about 1811. He was the second piano maker of Baltimore. *James Stewart*, two examples, both square, the earlier, No. 275, finished June 2, 1812, the later about 1814; also made organs and upright pianos. *Joseph Hisky*, two examples, both square, one, No. 53, about 1820, the other about 1828. Hisky, who advertised that he was a piano maker from Vienna, carried on this business in Baltimore from 1819 to 1845. *James Jen-*

kins, square, about 1825. *George Huppmann*, three examples, all square, with dates about 1829, 1832 and 1836. The last is one of the most ornate square pianos made in this country, and is in excellent condition. *Joseph Newman*, square, about 1829. *J. J. Wise & Brother*, two examples, a square piano, about 1838, and an upright, about 1840. This firm manufactured pianos in Baltimore for a period of over 30 years, and became known for its excellent instruments. *Anthony Kuhn*, square, about 1842. Not the work of Kuhn, but made in Austria for his trade, a common practice at that period. *J. & E. R. Newman*, square, about 1846.

Boston, Mass.—*John Osborne*, square, No. 307, about 1822. *Eben Goodrich*, square, about 1824. *Stewart & Chickering*, square, about 1824. James Stewart was considered the leading piano maker of Baltimore from 1812 to 1817, and also manufactured in Philadelphia previous to locating in Boston. *Alpheus Babcock*, two pianos, both square, about 1825 and 1828, respectively. The latter is a beautiful example of the handicraft of this highly reputed maker. The earlier square pianos of Babcock remain the most tastefully and neatly constructed of all these instruments.

Miscellaneous.—*A. Reuss*, Cincinnati, Ohio, square, about 1832; one of the most picturesque types of instruments of the larger form. Reuss announced himself as a piano maker from Vienna. *Walker's* patent swell seraphine, Norwich, Conn., about 1840. *Austin & Dearborn*, Concord, N. H., melodeon, piano style, about 1844.

Ceramics.—Forty-seven objects were received by this section, in 4 accessions, as follows: An old porcelain rice bowl with cover and a tea set of cloisonné on porcelain, lent by Miss Julia H. Chadwick, of Washington; a collection of Chinese and Japanese porcelains lent by Miss Eliza R. Scidmore, of Washington; a porcelain match box with bust of Benjamin Franklin surmounting the cover, presented by Mrs. Belle Bushnell, of Charlottesville, Va.; and an "ivy" pitcher lent by Mrs. F. W. Clarke, of Washington.

Graphic arts.—The accessions of the year, comprising 543 objects, exclusive of photography, were most important in the matter of filling gaps in the exhibition series. They were mainly as follows: Illustrations of the process employed in making blocks for color printing from photographs, presented by the Phototype Engraving Co., of Philadelphia, Pa.; a number of different kinds of printing ink, supplementing a previous contribution from Philip Ruxton, Inc., of St. Paul, Minn.; and many examples of lithographs, collotypes and other prints, as well as illustrations of the rapid rotary intaglio process, the gift of Mr. R. P. Tolman, of the Museum staff.

Special attention was given to the remounting of the exhibition collection and the arrangement and cataloguing of the reserve series.

The work of installation was, however, greatly retarded on account of the extensive alterations in progress on the main floor of the Smithsonian building in which this division is located.

In the section of photography, the additions consisted of two ruled screen color photographs, one made by Prof. Joly, the other by MacDonough, lent by Mr. Charles L. Brasseur, of Orange, N. J.; one MacDonough color transparency and four MacDonough color photographic prints, presented by Mr. Romyn Hitchcock, of Ithaca, N. Y.; an autographic No. 3 kodak, gift of the Eastman Kodak Co., of Rochester, N. Y.; and 6 flashlight photographs of the interior of the Franciscan Monastery at Brookland, D. C., taken and contributed by Miss L. Bernie Gallaher, of the Museum staff.

History.—This division was in receipt of 94 accessions, which, including postage stamps and coins, aggregated over 9,000 objects. The most interesting acquisitions of the nature of memorials came as loans, and were chiefly as follows: From Mr. E. Arnett Smith, of London, Ohio, a water color portrait of George Washington painted by James Peale about 1775 and mounted in the original frame. Washington is shown in Continental uniform with three-quarter view of the face turned to the left. From Mr. Jesse S. Walton, of Pensacola, Fla., a powder horn, leather bullet pouch, horn powder measure, and dagger with sheath, carried during the War of the Revolution by Capt. William Walton of the American army, great-grandfather of the lender. From Miss Laura Wolcott Tuckerman, of Edgewood, Md., a silver tea service of five pieces comprising two teapots, a coffee pot, a creamer and a bowl, which had belonged to Laura Wolcott, daughter of Oliver Wolcott, one of the signers of the Declaration of Independence. The design of the service is typical of the latter part of the 18th and the early part of the 19th centuries. From Mrs. Glenn Brown, of Washington, a pair of gold and jeweled earrings bearing the initial "M" and formerly owned by Mrs. Rebecca Madison, niece of President James Madison. From Rear Admiral Robert E. Peary, U. S. Navy, retired, three gold medals awarded him in recognition of his achievements as an Arctic explorer by the Geographical Society of Paris, the Explorers' Club of New York City and the Saint Andrews Society of Philadelphia, respectively, and a bronze Elisha Kent Kane medal presented to him by Mr. Harry B. Kane.

A collection of silver and bronze coins, including a number of fine specimens of United States one cent and two cent pieces issued between 1866 and 1880, and examples of Argentine, English, French, Spanish, Mexican and Korean coins, all of the 19th century, were presented by Dr. Walter Hough, of the Museum staff.

The total number of postage stamps, stamped envelopes and postal cards received for the collection from the Post Office Department and from other sources was 8,508.

Much progress was made in the installation of specimens, especially those recently received, and the work of arranging the smaller objects of the reserve series in alphabetical order by name of donor or lender, in accordance with the plan outlined in the last report, was nearly completed. This classification will greatly simplify the task of locating particular specimens when needed. The larger specimens have also been so disposed as to make them easily accessible. The chronological sequence of the exhibition cases and of the specimens in the cases was materially improved. The cases in the north hall and west-north range were partly rearranged and many of them were completely reinstalled. These changes have greatly increased the interest and value of the collections as a whole by rendering the general scheme of classification apparent to even the casual observer. The wall cases in the north hall now contain a noteworthy collection of historical furniture placed as far as possible in chronological order. The series begins with several chairs, a table, and a secretary or combination bureau and desk, formerly owned by Brig. Gen. Rufus Putnam of the Continental Army, followed by furniture which belonged to Thomas Jefferson, Lafayette, Alexander Hamilton, John Marshall, Peter Gansevoort, John Cropper, and other men of note in American history. The backs of these cases have been utilized for historical paintings and engravings. The renovation in a permanent manner of the Star-Spangled Banner was completed in accordance with the plan described in the last report, and the flag was restored to its former position in the wall case on the right of the entrance to the north hall. Much of the time of the assistant curator was devoted to preparing for exhibition the collection of ancient Greek and Roman coins which has for a number of years been in storage.

The preparation of the paper on the Washington relics by the assistant curator, Mr. T. T. Belote, now in course of publication, entailed a considerable amount of research work, which resulted in additional information that has been embodied in a new series of exhibition labels. This collection was also almost entirely reinstalled with a view to securing an arrangement harmonious with that followed in the catalogue. About 800 labels were printed for the various objects recently installed, and copy was prepared for about 2,500 additional labels, largely required for the coin and medal collection. At the close of the previous year the mounting and installation of the postage stamp collection in the exhibition cabinets, arranged by countries, had proceeded as far as the letter

N. During the past year the mounting of the entire collection was completed, and the 20th century part of the collection was installed as far as the letter P.

Historical costumes.—This collection was very considerably increased during the year, through the continued efforts of Mrs. Julian James and Mrs. R. G. Hoes, of Washington, 376 objects, comprised in 37 accessions, having been received. Most important was material for the representation, by means of draped figures, of four hostesses of the White House additional to those accounted for in the last report. The articles were all acquired as loans, and may be briefly described as follows:

For the administration of President Zachary Taylor, 1849–50, a costume worn at this period by Betty Taylor, daughter of the President, consisting of a dress, with kerchief, of sage-green silk grenadine, having a Scotch plaid border and trimmed with “moss” and silk fringe. Accompanying the dress are a white lace and black velvet collarette, a pair of black silk mitts and a fine linen handkerchief embroidered with the name “Betty.” For this apparel the Museum is indebted to Miss Mary S. Buchanan, of Winchester, Va. For the administration of President Millard Fillmore, 1850–53, a lavender silk dress, including skirt and bodice, worn at the White House by Mrs. Fillmore, and deposited by Mrs. J. D. Larkin, of Buffalo, N. Y. For the administration of President Franklin Pierce, 1853–57, a dress of black moiré covered with black tulle embroidered in silver tinsel, worn by Mrs. Pierce on the occasion of the inauguration of the President on March 4, 1853, received from Mrs. John M. Corse, of Boston, Mass. For the administration of President Grover Cleveland, a dress consisting of a low-cut bodice and umbrella-shaped skirt; the former of the same pale green brocade silk as the skirt, trimmed with rose-colored velvet, the shoulders decorated with butterflies of cream lace and iridescent spangles; the latter brocaded with American Beauty roses; worn by Mrs. Cleveland during the first administration of Mr. Cleveland, 1885–89. This costume was deposited by Mrs. Thomas J. Preston, of Princeton, N. J.

Among the other additions were many of interest and note. A collection of the wearing apparel of Thomas Jefferson used when engaged in his daily pursuits at Monticello, consisting of doeskin, nankin, and seersucker breeches, a homespun linen shirt, a hand-knit sock, and white cambric stock bearing the initials “T. J.,” and also a white linen sleeping bag carried by Mr. Jefferson on his long horseback rides, were lent by Miss Cornelia J. Taylor and Mrs. William Mann Randolph, of Charlottesville, Va. Several costumes which belonged to Mrs. James Monroe, comprising a dress of white brocaded silk embroidered with silver, having a low-cut bodice and

round-length skirt; a "sacque" dress of ivory brocaded silk embroidered with flowers in colors, Watteau-backed, and with full skirt and trained polonaise; a dress of cream-colored brocaded silk, embroidered with dahlias and leaves in colors, with round full skirt, overskirt, and low-cut bodice; a scarf of pale blue figured silk-gauze; together with four waistcoats of President Monroe, one of pale blue rep-silk embroidered in black straw and steel spangles, another of gold-colored satin elaborately embroidered in colors with floral designs, a third of cream-colored satin embroidered in colors with border of vine and flowers edged with plum-colored floss, and the fourth of cream-colored gros-grain silk embroidered in green, yellow, and dark pink with floral designs, all belonging to the Grafton Spurrier collection, were deposited by Mrs. R. G. Hoes.

Costumes and parts of costumes—examples of the typical Quaker garb worn in the early and middle part of the 19th century—including a black silk dress, a quilted skirt, kerchiefs, bonnets and other apparel of the period from 1800 to 1850; a gray silk wedding dress and other apparel worn by Rebecca L. Elkinton in 1863, and the wedding vest of Thomas L. Elkinton, of the same date, were a gift from Dr. Anna P. Sharpless, of Philadelphia, Pa. A baby's pink dress worn by Col. David DuBose Gaillard in 1860; a silk dress made in Paris, and a pair of silk stockings worn by Mrs. Edward Gendron Palmer, of South Carolina, grand-aunt of Mrs. Gaillard, at a ball given in honor of Lafayette at Columbia, S. C., in 1824, and a beaded purse made and owned by Dorcas Richardson, wife of Col. Richard Richardson, an officer in the American army during the War of the Revolution, were lent by Mrs. D. D. Gaillard, of New York. A number of relics of the Hays family of Boston and the Myers family of Richmond, comprising two knit silk night caps used by Moses Michael Hays about 1805, a white Mechlin lace wedding veil worn by Mrs. Sally Hays Myers in 1796, black satin slippers belonging to Mrs. Joyce Mears Myers of New York about 1768, and knee breeches and a pair of shoe buckles worn by Mr. M. M. Myers about 1795, were received from Mrs. Edward Cohen, of Washington. Mrs. Cohen also presented a tan satin empire gown which had belonged to Mrs. Samuel Myers, and a painted bodice worn by Mrs. Samuel Hays Myers about 1830-38.

A dress of ivory satin and gold brocade richly trimmed with French lace, worn by Mrs. Charles Warren Fairbanks, wife of the Vice President, at the inaugural ball of March 4, 1905, was received as a gift from Mr. Fairbanks. A calling costume of Mrs. Stephen B. Elkins, of Washington, including a gold lace hat with brown plumes, a skirt, waist, and girdle of light brown Brussels net embroidered with gold thread and beads, a coat of red velvet and brown net, and brown silk stockings and satin slippers, were deposited by Mrs.

Elkins. A dress of white satin elaborately trimmed with mica spangles and mother-of-pearl beads, worn by Mrs. John W. Foster, of Washington, while with her husband, the Hon. John W. Foster, on a special mission to Russia in 1897, was lent by Mrs. Foster. A large and interesting collection of bonnets of the 19th century, of various shapes, sizes, and colors, was received as a loan from Mrs. H. Kirk Porter, of Washington.

Exhibition and preparation of specimens.—The general work of preparation of specimens for the exhibition and reserve series was in charge of Mr. W. H. Egberts, under the supervision of the head curator. It comprised a wide range of activities, including the care and repair of specimens, the making of replicas, the modeling, casting and painting of new exhibits, the installation of lay-figure groups, etc. The principal new exhibits prepared, with a certain amount of outside help, comprised three lay-figure industrial groups consisting of two life-size figures each, illustrating the mining and quarrying industries of the aborigines. The figures and molds were in part made by Mr. U. S. J. Dunbar, sculptor, and were painted, costumed, and set up, with appropriate groundwork and fittings, by the laboratory force. These groups represented, respectively, work in a soapstone mine on Santa Catalina Island, Cal., the operation of an iron and paint mine in Missouri, and the working of a copper mine on Isle Royale, Mich. Seventeen full-length lay-figures were also modeled by Mr. Dunbar, and painted and costumed in the laboratory, for the Panama-Pacific Exposition. Five of these figures belong to a family group of Carib Indians of British Guiana, 6 to a family group of the Dyaks of Borneo, and 6 to a family group of the Zulu-Kaffirs of South Africa. A group of 7 figures illustrating the Eskimo of Alaska was likewise prepared for the exposition.

At the close of the year the enlargement and remodeling of the Bontoc-Igorot family group, the Kiowa family group, and the Cocopa family group were in progress, and 2 figures designed for the Maya stone-working group, modeled by Mr. Dunbar and finished in the laboratory, were being installed. During October, 1914, a photographer spent several days in the laboratory taking motion pictures of the making of life masks, and the finishing, painting, etc., of lay figures, for the Government exhibit at the Panama-Pacific Exposition.

Explorations.—No important explorations were undertaken, though Mr. Neil M. Judd, aid in the division of ethnology, conducted limited archeological investigations in western Utah under the auspices of the Bureau of American Ethnology. His examination of several mounds appears to indicate the former occupation of the region by a pre-Pueblan people of comparatively simple culture.

The dwellings were mere earth-covered lodges which seem to have given place to single-room houses with adobe walls and well-constructed roofs, and it is not unlikely that the people were ancestral tribes of some of the Pueblos of today.

DEPARTMENT OF BIOLOGY.

The additions in biology, though less extensive as a whole than in the previous year, included much material of particular scientific value. Of general contributions, those relating to the subjects of two or more divisions, there were several of a noteworthy character. The list may be headed with a benefaction from Dr. W. L. Abbott, consisting of a large and diverse collection made by Mr. H. C. Raven in continuation of his explorations in Dutch East Borneo at the expense of the donor. Of no less importance were immense collections from the *Tomas Barrera* expedition to the northwest coast of Cuba, comprising at least 10,000 mollusks and other invertebrates, nearly 3,000 fishes, and many reptiles and batrachians, for which the Museum is indebted to the generosity of Mr. John B. Henderson, a Regent of the Institution, who was assisted by Dr. Paul Bartsch of the Museum staff. The Bureau of Fisheries transmitted extensive series of marine invertebrates, 67 types of recently described fishes mostly from the Philippine Islands, and 172 fur seal skulls obtained by the naturalists who visited the Pribilof Islands in 1914 to study and report upon the condition of the seal herd. From Mr. Arthur de C. Sowerby were received numerous and noteworthy contributions of mammals, birds, reptiles and batrachians, fishes and insects, from little known districts in China, the fauna of which is but scantily represented in the Museum. Very acceptable, as coming from a region in which the Institution has recently undertaken investigations, were a series of birds, reptiles, batrachians, fishes and marine invertebrates from Panama, the gift of Mr. James Zetek. Through the generosity of the Carnegie Institution of Washington large collections of plants and marine invertebrates have been secured to the Museum, and acknowledgments are also due to the Biological Survey of the Department of Agriculture for the transfer at various times of miscellaneous material, such as reptiles, birds' eggs, nests and skeletons.

Mammals.—The mammals obtained in Dutch East Borneo by Mr. Raven have not yet been carefully studied, but they evidently constitute a very important complement to those previously gathered by Dr. Abbott in the region immediately south of that in which Mr. Raven worked. Dr. Abbott also presented 225 mammals from Kashmir, British East India, collected by himself. Several accessions transmitted by Mr. Arthur de C. Sowerby from northeastern China

and Manchuria contain specimens of unusual interest, such as a new squirrel of a genus not hitherto known from that part of China, and a very large bear belonging to a group quite distinct from the common brown bear of the Old World. The following rarities filling gaps in the exhibition series were acquired by purchase, namely, a skeleton of the gray whale, another of the aye-aye from Madagascar, and a specimen of *Hyomys meeki*, a large and little known rat peculiar to New Guinea.

The tanning of large skins by contract has kept pace with the needs of the division, 35 having been finished while work on 54 others was in progress at the close of the year. The division taxidermist made up or renovated over 360 smaller skins for the reserve series. Thirty-eight skeletons and 726 skulls were cleaned by Museum preparators, and 197 large and 3,850 small skulls by contract. The classified arrangement of skeletons and skulls of large mammals in the attic has progressed as rapidly as storage cases have been provided. During the year the families Cervidæ and Antilocapridæ were gone over with the result that all the ungulate mammals, except the Bovidæ, have now been provisionally sorted and placed under cover, and a preliminary separation by subfamilies of skulls and bones of the latter family has been made. Forty-two quarter-unit cases were installed for this work in place of the discarded stacks released for use elsewhere, but approximately 100 additional cases are still required for continuing the arrangement of large skulls and skeletons for which no provision now exists. A rearrangement of the collection of alcoholic mammals, in conformity with the system adopted in the division of reptiles, was begun. It involves the marking of each container and the writing of two catalogue cards for each.

The study series of cetaceans remains in the same condition as at the time of Dr. F. W. True's death. Although it is realized that it should be examined and stored in a more satisfactory manner than at present, it has been considered unwise to disturb it until the services of some competent specialist in this important branch can be secured.

In addition to the investigations indicated in the bibliography at the end of this report, the curator of the division, Mr. Gerrit S. Miller, jr., in conjunction with Mr. J. W. Gidley, has undertaken a very important rearrangement of the families of rodents, including the fossil members of the group. He has also in hand a monograph of the American bats of the genus *Myotis*, and has recently begun a critical study of certain recent and fossil great apes and Hominidæ, which promises very interesting results. The assistant curator, Mr. N. Hollister, finished a monograph of the prairie dogs and a revision of the genera of Procyonidæ, both of which are in press. Mr.

Edmund Heller, who had been engaged in a preliminary study of the east African mammal material collected in recent years by the Smithsonian and other expeditions, left for Peru toward the end of the year with the joint expedition of Yale University and the National Geographic Society. In view of the urgency of completing the final report on the African specimens, the subject has been turned over to Mr. Hollister, who is devoting to this important task all of the time which can be spared from routine work. Dr. C. H. Merriam, associate in zoology, is continuing his researches on the bears and other North American mammals.

The collections of the division have been constantly utilized by members of the Biological Survey, and Dr. O. P. Hay, of the Carnegie Institution of Washington, has also consulted them in connection with his studies of Pleistocene mammals. Dr. M. W. Lyon, jr., spent considerable time in the preparation of a paper on the mammals obtained by Dr. W. L. Abbott on islands off the west coast of Sumatra; and Messrs. W. H. Osgood and E. A. Preble, who visited the Pribilof Islands in 1914 on behalf of the Department of Commerce, examined the seal material. Specimens were lent for study to Dr. G. M. Allen, of the Museum of Comparative Zoölogy; to Dr. J. A. Allen, Dr. William K. Gregory and Dr. W. D. Matthew, of the American Museum of Natural History; to Mr. G. F. Eaton, of the Peabody Museum of Yale University; to Mr. Childs Frick, of Bryn Mawr, Pa.; to Mr. W. H. Osgood, of the Field Museum of Natural History; to Mr. W. P. Taylor, of the University of California, and to the California Academy of Sciences.

Birds.—The Bornean collection from Mr. Raven contained a large number of interesting species especially among the timeline birds, notably a *Rubigula paroticalis*, and also in other groups, such as the ibis, *Inocotis papillosus*, of which both genus and species are new to the Museum. The birds from Mr. Sowerby form very acceptable additions to the somewhat scant series of Chinese forms, among the species not previously in the collection being two owls, *Glaucidium orientale* and *Strix uralensis nikolskii*, a raven, *Corvus corax ussuriensis*, a grouse, *Tetrastes bonasia septentrionalis*, and a recently described jay, *Garrulus diaphorus*. Mr. Otto Holstein, of San Antonio, Tex., presented some very desirable material from Ecuador, comprising 163 skins, among which are a number of species now for the first time acquired, such as *Mecocerculus poecilocercus*, a flycatcher, and *Cinclodes albidiventris*, an ovenbird, as well as a new species of seed-eater, *Sporophila incerta*. Twenty-one Australian birds were received in exchange from the Western Australian Museum and Art Gallery, at Perth; and a rare Amazon parrot, *Amazona bodini*, was the gift of Mr. Edward S. Schmid, of Washington.

A unique accession was the last of the passenger pigeons, *Ectopistes migratorius*. This individual, which had been carefully tended for many years in the Cincinnati Zoological Gardens, died on September 1, 1914, and its body in the flesh was generously presented to the Museum by that establishment. It was known as "Martha" and is said to have been hatched in the Gardens in 1885, having consequently attained an age of 29 years. The skin, excellently mounted by Mr. Nelson R. Wood, was placed on exhibition, while the body, after its anatomy had been studied, was preserved in alcohol. With the death of this individual one of the most interesting and beautiful of North American birds became extinct. Dr. C. W. Richmond, in commenting on this acquisition observes: "In the language of the committee reporting the first game laws enacted in Ohio, in 1857, 'The passenger pigeon needs no protection. Wonderfully prolific, having the vast forests of the North as its breeding grounds, traveling hundreds of miles in search of food, it is here today and elsewhere tomorrow, and no ordinary destruction can lessen them or [any] be missed from the myriads that are yearly produced.' It is truly the irony of fate that the final extinction of this species should take place in the same State 57 years later."

The rearrangement of the study series of skins was continued as opportunity offered, and as much progress made as could be expected with the present inadequate facilities. The work was carried through 24 half-unit cases, comprising the remainder of the birds of prey, all of the Steganopodes (pelicans, cormorants, gannets, etc.), the flamingoes, the swans, and a part of the ducks. As the task proceeds it is found that more case room is required than was at first anticipated, owing partly to the previous crowding of the larger and especially the aquatic birds, and partly to the many large specimens recently withdrawn from the exhibition series and remade into skins. In connection with the transfers to the reserve series, all of the specimens are relabeled, a labor often requiring extended search in the catalogues to verify the records and correct errors, some of which date back to the original numbering of early days, while others are incidental to the change from mounted specimens to skins. The search for missing type specimens was continued but with indifferent results, only two having been located.

Good progress is reported in sorting and arranging the collection of skulls, breast bones and skeletons received during the year, among them having been a large quantity of old material found in the osteological storage and turned over to the division. Many of the specimens were placed in suitable containers and labeled, and a considerable mass of material was picked out for preparation by the cleaners. There remains, however, a great deal to do before the

osteological series can be placed in good and final shape. The more important accessions of birds' eggs received during several years past, amounting to 242 sets and 923 specimens, were labeled and distributed in the cases.

The curator of the division, Mr. Robert Ridgway, was chiefly occupied in the preparation of manuscript for his monumental work on the Birds of North and Middle America, which is being issued as Bulletin 50 of the Museum. Six volumes have already been published, the manuscript of volume 7 was completed in May, and volume 8 is now in course of writing. Dr. Charles W. Richmond, assistant curator, devoted most of his spare time from administrative work to bibliographical and nomenclatorial research, while Mr. J. H. Riley, aid, in addition to assisting Mr. Ridgway in connection with Bulletin 50, studied and identified the birds received during the year from Ecuador and China. Dr. E. A. Mearns, U. S. Army (retired), associate in zoology, continued his studies on east African birds from the various expeditions to that region, and Mr. A. C. Bent, of Taunton, Mass., his preparation of the life histories of North American birds. Members of the Biological Survey made frequent use of the collections, especially Mr. H. C. Oberholser who consulted the North American and Malayan series of skins, and Mr. Alex. Wetmore who conducted extensive researches in the osteological series, incidentally arranging many of the specimens for the Museum. Among other ornithologists from this country and abroad who spent more or less time in the division, may be mentioned Mr. C. C. Custer, of Balboa, Canal Zone; Mr. Childs Frick, of Bryn Mawr, Pa.; Mr. F. Seymour Hersey, of Taunton, Mass.; Mr. Wharton Huber, of Gwynedd Valley, Pa.; Mr. J. Parker Norris, jr., of Philadelphia, Pa.; Mr. D. E. Oleson, of Titusville, Pa.; Mr. W. H. Osgood, of the Field Museum of Natural History; Father W. C. Repetti, S. J., of Fordham University; Prof. R. M. Strong, of the University of Mississippi; Mr. W. E. Clyde Todd, of the Carnegie Museum; Mr. John P. Young, of Youngstown, Ohio; Dr. T. W. Richards, U. S. Navy; Dr. R. W. Shufeldt, and Mr. Edward J. Court, of Washington; and Mr. George D. Wilder, of Pekin, China.

A large number of specimens were lent for study to the following institutions and individuals, namely: Mr. Frank M. Chapman and Mr. W. de W. Miller, of the American Museum of Natural History; the California Academy of Sciences, for the use of Mr. L. M. Loomis; Mr. Todd, of the Carnegie Museum; Mr. Henry K. Coale, of Chicago, Ill.; Mr. C. B. Cory, of the Field Museum of Natural History; Mr. Outram Bangs, of the Museum of Comparative Zoölogy; Dr. Joseph Grinnell, of the Museum of Vertebrate Zoology of the University of California; the Museum of History, Science and Art, at

Los Angeles, Cal., for the use of Mr. J. E. Law; and Dr. R. W. Shufeldt.

Reptiles and batrachians.—Reference has already been made to the material received from Dr. W. L. Abbott, the Biological Survey, Mr. A. de C. Sowerby, Mr. John B. Henderson and Mr. J. Zetek. Dr. J. C. Thompson, U. S. Navy, and Mr. H. C. Kellers contributed a large number of specimens from California and Mexico; and the McMahon Museum at Quetta, Baluchistan, sent 10 specimens of snakes, including several species new to the Museum. A collection from Brownsville, Tex., presented by Mr. R. D. Camp, was particularly interesting in containing representatives of a new species of frog of the genus *Syrrhophus*; while another new species, a coral snake from Panama, was a gift from Dr. S. T. Darling, of that place.

The preservation of the specimens in this division, which are mainly alcoholic, has been systematically attended to, and the collection is maintained in excellent condition. A few dry preparations and skulls of turtles were cleaned, and it is hoped in the course of a few years to assemble such a series of skulls illustrating the variations in this order as will permit of an intensive study of the North American testudinata. Progress was made in the card cataloguing of the collection, though not as much as during the previous year, owing to the fact that the cataloguer was detailed for part of the time to do similar and more urgent work in the division of mammals.

Dr. Leonhard Stejneger, head curator of biology and also curator of this division, continued, in such time as could be spared from other duties, his studies of North American testudinata and made considerable progress toward a monographic account of the order. Dr. Thomas Barbour, of the Museum of Comparative Zoölogy, consulted the collection on several occasions in connection with his studies of West Indian herpetology. Other students who had access to the collection were Prof. A. H. Wright, of Cornell University; Dr. O. P. Hay, of the Carnegie Institution of Washington; and Mr. E. R. Dunn, of Haverford College, Pa. Specimens were lent for study to Dr. Thomas Barbour and to Dr. J. C. Thompson, U. S. Navy.

Fishes.—While the number of specimens transferred by the Bureau of Fisheries was smaller than usual, the accessions from that source were nevertheless of much value, including, as they did, 67 types chiefly from the Philippine Islands, collected by the steamer *Albatross*. More than 2,900 specimens obtained on the *Tomas Barrera* expedition to northwestern Cuba, were contributed by Mr. John B. Henderson. The cooperation of the Museum with Dr. Fred Baker in his trip to the Orient resulted in the addition of 346 fishes from

Takao, Formosa; while a collection of about the same size, particularly rich in eels, from Panama, was received as a gift from Mr. Robert Tweedlie.

Almost the entire time of the assistant curator and his assistant was required in caring for and rearranging the collections, and in selecting duplicate material for exchanges. The number of specimens bottled, labeled and installed amounted to several thousands through the necessity of separating different species which had been placed promiscuously in storage jars.

The work of revision and rearrangement begun the previous year by Prof. J. Otterbein Snyder, the eminent ichthyological specialist of Leland Stanford Junior University, was continued until January, but not concluded. As explained in the last report, his services were secured for a complete overhauling and revision of the ichthyological collection, the elimination of specimens not deemed worthy of further preservation, the segregation of the type and other especially valuable specimens, and the setting aside of such material as might be suitable for exchange purposes. Unfortunately Prof. Snyder was obliged to sever his connection with the Museum before this task had been finished, though the most pressing and necessary work was accomplished. It is of extreme importance that some means be found for bringing this matter to a final conclusion, since no other of the natural history collections are more important for economical consideration.

The assistant curator, Mr. Barton A. Bean, found little time for research work, although collections from Panama and the Red Sea were identified, and a beginning was made with the fishes from the *Tomas Barrera* expedition. Dr. Snyder, while engaged upon the revision of the collections, was able to make some special investigations, particularly with regard to type specimens and the fish fauna of the so-called Lahontan Basin. Dr. W. C. Kendall, Mr. Lewis Radcliffe and Mr. W. W. Welsh, of the Bureau of Fisheries, consulted the collections in connection with their official work, and a large lot of young and larval fishes was temporarily transferred to that Bureau to facilitate their study. Specimens were also lent to Dr. Snyder, Prof. E. C. Starks and Dr. C. H. Gilbert, all of Leland Stanford Junior University; and to Mr. J. T. Nichols, of the American Museum of Natural History.

Marine invertebrates.—As explained on a later page, the two divisions of mollusks and marine invertebrates were consolidated during the year under the latter designation.

For the most notable accessions of the year the division was indebted to the generosity of Mr. John B. Henderson, who presented a very large collection of selected specimens of mollusks, all in good condition, generally identified and labeled, constituting the most

important contribution to the reserve series that has been received in some years. It contains material from every part of the world except the West Indian region. In addition, Mr. Henderson also turned over to the Museum, as a part of the results of the *Tomas Barrera* expedition to Cuba, which he mainly financed, approximately 10,000 specimens of invertebrates, of which 8,000 were mollusks, including many species new to the collection. In this exploration he was assisted by Dr. Carlos de la Torre, of Havana, and Dr. Paul Bartsch.

Eight separate collections of much scientific value were transferred by the Bureau of Fisheries. The more prominent of these were clypeastroid sea-urchins to the number of 767 specimens from cruises of the steamer *Albatross* in 1887, 1902 and 1906, identified and described by Dr. H. L. Clark in the Memoirs of the Museum of Comparative Zoölogy; the crinoids from the Philippine expedition of the steamer *Albatross*, 1907-10, worked up by Mr. Austin H. Clark; the Asteroidea, including types and cotypes, from cruises of the steamer *Albatross* in 1891 and 1899-1900, under the direction of Alexander Agassiz, described by Prof. H. Ludwig in the Memoirs of the Museum of Comparative Zoölogy; more than 150 specimens of parasitic copepods, embracing types and cotypes, studied by Dr. Charles B. Wilson and the results published in the Proceedings of the National Museum; about 9,000 specimens of crustaceans taken in connection with the biological survey of San Francisco Bay by the steamer *Albatross* in 1912-13; and about 800 specimens of miscellaneous marine invertebrates collected by the steamer *Albatross* in 1914 during a further survey of San Francisco Bay and an investigation of the halibut banks off Washington and Oregon.

Special acknowledgments are due to the Carnegie Institution of Washington for splendid series of corals and mollusks obtained through the efforts of Dr. A. G. Mayer and his staff of collaborators at the Tortugas Marine Biological Laboratory. Among the most noteworthy was a set of 1,000 specimens of corals from the Bahama Islands and Florida, including, with few exceptions, all of the specimens planted by Dr. T. Wayland Vaughan and used as the basis of his study of their rate of growth. In some respects, according to Dr. Vaughan, this collection is unique and the most interesting in existence. Additional material consisted of about 300 specimens of corals, representing some 75 species, from Murray Island, Australia, together with many bottom samples from the same locality, collected by Dr. Mayer, who also contributed 1,000 land shells and 30 corals from the Bahama Islands. During the botanical expedition of Dr. J. N. Rose to South America, he and Mrs. Rose secured over 200 specimens of invertebrates for the Museum in northern Chile.

From Prof. C. C. Adams, of the New York State College of Forestry at Syracuse, was received the entire series of types of the molluscan genus *Io*, the basis of his monograph in course of publication by the National Academy of Sciences, besides a very large number of additional specimens. Dr. F. Wood-Jones, of London, England, presented about 106 specimens of corals, representing about 50 species, from the Keeling Islands in the Indian Ocean, including the material figured in papers published by him in the Proceedings of the Zoological Society of London and in his book "Coral and Atolls." The Museum of the University of Michigan contributed 14 specimens of crustaceans from the Santa Marta Mountains in Colombia, collected by the Bryant Walker expedition and described by Mr. A. S. Pearse. Two hundred specimens of small reef crabs and 30 species of corals, the latter from around Fanning Island, Pacific Ocean, were received as a gift from the College of Hawaii, Honolulu; and 11 alcyonarians from the Philippine Islands were obtained in exchange from the University of the Philippines at Manila.

Types and cotypes of species were presented as follows: By Mr. George H. Clapp, of Pittsburgh, Pa., cotypes of recently described land shells; by Prof. G. S. Dodds, of the University of Missouri, type slides and specimens of *Streptocephalus coloradensis* and *Diaptomus arapohensis* from Colorado, described by himself; and by Dr. C. D. Marsh, of the Department of Agriculture, the types of his *Diaptomus virginianensis*. A gift from Mr. H. K. Harring of 50 microscopic slides of Rotatoria from the District of Columbia included types, as did also a collection of 30 Japanese crabs from Mr. T. Urita, of Kagoshima, Japan. Two cotypes were contained in a small lot of crinoids presented by Mr. Frank Springer. Here may also be mentioned the gift of more than 175 specimens of parasitic copepods from the private collection of Dr. Charles B. Wilson; of 29 specimens of identified corals from Dr. J. Stanley Gardiner, of the University of Cambridge, England; and of 65 specimens of Brazilian crabs from Dr. H. von Ihering, of São Paulo. Reference has elsewhere been made to the marine invertebrates collected in Borneo by Mr. Raven, and in Panama by Mr. Zetek. A number of interesting specimens were added by members of the Museum staff, including about 160 specimens from the Tortugas, Fla., by Dr. T. W. Vaughan; over 160 crustaceans from the District of Columbia and neighboring region, by Mr. C. R. Shoemaker, and 100 miscellaneous invertebrates from Virginia, by Miss P. L. Boone.

In the spring of 1914 a circular soliciting specimens of earthworms and giving directions for their collection and preservation was distributed to a number of correspondents, this material being desired

for a special study and for addition to the collection. There were several favorable responses, the principal contributions coming from the Hon. J. D. Mitchell, of Victoria, Tex.; Prof. H. A. Hill, of Cumberland University, Lebanon, Tenn.; and Dr. W. K. Fisher, of Leland Stanford Junior University.

The sorting of the Philippine mollusks and their classification by families, as well as their registration and labeling, were concluded. The same is true with regard to the White collection, while the labeling and recording of the Henderson collection of mollusks has been continued steadily, with good progress, in the intervals of other work. Marked advance was also made in the cataloguing in other classes of invertebrates, most important being the relabeling, card-cataloguing and systematic arrangement of the extensive collection of crinoids, which aggregate some 2,500 entries.

Dr. William H. Dall, curator of mollusks, continued his revision of the west American molluscan fauna, giving special attention to the families Emarginulidæ and Semelidæ, and the genus *Nucella*. A brief report was made to the Brooklyn Institute of Arts and Sciences on some mollusks collected during the expedition under its auspices to South Georgia, in the antarctic region. Other results of Dr. Dall's work completed during the year are indicated in the bibliography. About one-half of the west American series of mollusks has now been carefully revised, new material properly placed and the nomenclature revised to date by Dr. Dall.

Miss Mary J. Rathbun, associate in zoology, studied the spider crabs (family Inschidæ) from the expedition of the Bureau of Fisheries steamer *Albatross* to the Philippine Islands in 1907-10, and in the same connection named the unidentified specimens of this family previously in the Museum. Forty-one new species were found and described. Miss Rathbun also worked up the fresh-water crabs (Pseudothelphusinæ) obtained at Santa Marta, Colombia, by the Bryant Walker expedition, and reported on a small collection of crabs secured by the Australian Antarctic expedition of 1911-14, under the direction of Sir Douglas Mawson, as a contribution to the memoirs of that exploration. She likewise determined the extensive collection of decapod crustaceans, including several new forms, obtained during the *Tomas Barrera* expedition of 1914 to the north-west coast of Cuba, and identified large series of material sent from Japan by Mr. T. Urita, from Brazil by Dr. H. von Ihering, and from the coast of Chile, collected by Dr. and Mrs. J. N. Rose. Her researches on fossil decapod crustaceans are referred to elsewhere.

Dr. Paul Bartsch, curator of the division, completed his report on the Turton collection of South African marine mollusks and other shells from the same region preserved in the Museum, besides ac-

counts of the Philippine land shells of the genus *Schistoloma*, of the recent and fossil mollusks of the genus *Rissoina* from the west coast of America, and a number of smaller papers. He is at present engaged in the preparation of reports on the operculate land shells of the Philippines, and the Eulimidæ and Tertiary Pyramidellidæ of America. Contributions by Mr. Austin H. Clark, assistant curator, published during the year, comprised the first volume of a monograph of existing crinoids, issued as Museum Bulletin 82, and other papers on crinoids and onychophores. Mr. Clark also completed his study of the crinoids collected by the Australian Fisheries Investigation steamer *Endeavour*, and continued his investigations of the material obtained by the Dutch steamer *Siboga*, the Danish steamer *Ingolf* and the steamer *Gauss* of the German South Polar expedition, besides preparing manuscript for a second part of Bulletin 82. Mr. Waldo L. Schmitt, assistant curator, had nearing completion a report on the decapod crustaceans of San Francisco Bay obtained during the survey by the Bureau of Fisheries in 1912-13, and began upon a study of the macruran crustaceans of the east coast of North America. Mr. William B. Marshall, assistant curator, was almost wholly occupied with the care, identification, recording and arrangement of the molluscan material received during the year. The limited time available for research was devoted to the study of pearly fresh-water mussels, and a short paper on three new species of *Anodontoides* from Brazil was submitted. Mr. C. R. Shoemaker, aid, prepared an account of the amphipods from the South Georgia (antarctic) expedition, and made progress with his studies of this crustacean group, especially as represented on the east coast of North America.

Dr. T. Wayland Vaughan, custodian of madreporarian corals, continued his investigations on West Indian and Pacific forms; and Mr. H. K. Harring, custodian of the Rotatoria, contributed a paper on specimens of that group from Panama, with descriptions of new species. The work of Dr. C. W. Stiles, custodian of the helminthological collections, related to sanitation and the study of the parasites of school children, many such, both white and colored, having been examined to determine the relative frequency of parasites among them, their influence on the mental and physical development of children, etc.

The facilities afforded by the division were availed of by a number of specialists and students, of whom the following may be mentioned, namely, Mr. John B. Henderson, of Washington, who continued his researches on Antillean mollusks; Prof. W. P. Hay, of Washington, who spent some time in the preparation of a report on the crustaceans found at the Beaufort Laboratory of the Bureau of Fisheries; Mrs. Kate S. Outwater, of Washington, who investigated the nepionic shells of a chain of *Busycon canaliculatum*; Miss Katherine Burden,

of Washington, who devoted several months to a biometric study of the shells of *Vivipara lanaonis* from the Philippines; and Mr. F. M. Anderson, of the California Academy of Sciences.

The extent to which the collections of the division have been made the basis of important researches by scientific men, not members of the Museum staff, both at home and abroad, is indicated by the citations in the bibliography at the end of this report. Among those who in recent years have had extensive series of material sent to them for elaboration are Prof. C. C. Nutting, Prof. A. E. Verrill, Dr. J. A. Cushman, Dr. H. J. Hansen, Prof. C. B. Wilson, Dr. H. B. Bigelow and Dr. H. A. Pilsbry. Some of these and others still have collections in their possession, on which reports are forthcoming. Additional material for study was sent during the year to Dr. J. A. Cushman, of the Boston Society of Natural History, consisting of Foraminifera from the North Pacific Ocean and New England; to Dr. Max Ellis, of the University of Colorado, a large number of discodrilid worms from crayfishes; to Prof. Frank Smith, of the University of Illinois, a large number of earthworms from California and Texas. Specimens were also supplied to Dr. H. A. Pilsbry, of the Philadelphia Academy of Sciences; Dr. H. J. Hansen, of Gjentofte, Denmark; Dr. C. A. Kofoed, of the University of California; and Dr. Aaron L. Treadwell, of Vassar College.

Insects.—The Bureau of Entomology of the Department of Agriculture furnished, as usual, the greatest number of specimens, which were contained in several transfers and aggregated 7,329 specimens, mostly Hymenoptera, Diptera and Odonata, besides over 900 vials of miscellaneous insects in alcohol. Included in one of the accessions were the types of 69 species of Hymenoptera. A gift of Peruvian material from Dr. C. H. T. Townsend, forming an exceedingly valuable acquisition, consists of 118 slides, 443 vials of reproductive systems and over 3,000 adult Diptera, with the types of four species. The tendency among entomologists to deposit their type specimens with the national collections, thereby providing for their permanent preservation and making them more accessible to scientific workers in general, is well exemplified in certain gifts from Dr. T. D. A. Cockerell, of the University of Colorado, which comprise, besides numerous wasps and miscellaneous insects, the types of 81 species of Hymenoptera, cotypes of 10 species, and an allotype of 1 species. From Copenhagen, Denmark, two valuable contributions were received, one from Mr. E. Rosenberg illustrating the life histories of 94 species, together with the biological material of 68 species of European Coleoptera; the other from Mr. J. P. Kryger, consisting of 146 vials of Coleoptera and 51 vials of Hymenoptera.

Because of delay in receiving the necessary drawers, but little progress was made in the work of transferring specimens to the per-

manent insect trays, which have been designed for the better preservation of their contents than under the old system.

The custodians attached to the division, who are mostly members of the Bureau of Entomology, were mainly occupied in the working up of material with reference to its economic bearing, but in the course of their researches they discovered and described many new species, as noted in the bibliography. Mr. J. C. Crawford, associate curator of the division, published two papers of a revisional character, and Dr. A. D. Hopkins, custodian of forest tree beetles, prepared a list of generic names and their type species in the coleopterous superfamily Scolytoidea, which was printed in the Proceedings of the Museum.

Besides members of the Museum and Bureau staffs, a number of entomologists consulted the collections. Mr. William Schaus was present most of the year, and submitted for publication a voluminous paper entitled "A generic revision of the American moths of the subfamily Hypeninae." Others who worked in the division, generally for only short periods, were Mr. George Shinji, of the University of California; Mr. Charles Dury, of Cincinnati, Ohio; Dr. F. E. Lutz and Mr. A. J. Mutchler, of the American Museum of Natural History; Mr. Frank L. Thomas, of Athol, Mass.; Mr. B. Preston Clarke, of Boston, Mass.; Mr. Henry Bird, of Rye, N. Y.; and Mr. C. P. Alexander, of Cornell University. Specimens were lent for study as follows: Odonata to Mr. Clarence H. Kennedy, of Palo Alto, Cal.; Orthoptera to Mr. Morgan Hebard, of the Academy of Natural Sciences of Philadelphia; Coleoptera to Mr. Charles Schaeffer, of the Museum of the Brooklyn Institute, Mr. J. A. Hyslop, of the Entomological Laboratory, Hagerstown, Md., Mr. V. E. Shelford, of the University of Illinois, and Dr. E. C. Van Dyke, of the University of California; Diptera to Prof. C. W. Johnson, of the Boston Society of Natural History, Prof. A. L. Melander, of the Washington Agricultural Experiment Station, and Mr. E. T. Cresson, jr., of the Academy of Natural Sciences of Philadelphia; Aphaniptera to Mr. F. C. Bishopp, of Dallas, Tex.; Hemiptera to Mr. H. G. Barber, of Roselle Park, N. J.; and miscellaneous insects to Mr. R. T. Young, of the University of North Dakota, and Mr. H. T. Fernald, of the Massachusetts Agricultural College.

Plants.—The past year surpassed all of the preceding 10 years, except 1913, in the number of plants received. Nearly one-fourth of the total aggregate, or 12,505 specimens from various parts of the United States, was deposited by the Department of Agriculture. Several important collections were included, the largest consisting of 7,300 grasses, of which about 1,300 have been incorporated in the herbarium, the remaining 6,000 being classed as duplicates, to be dis-

tributed in 30 sets of 200 numbers each, and as the identifications are based on the critical studies of Prof. A. S. Hitchcock and Mrs. Agnes Chase the value of the sets will everywhere be recognized. About 1,500 specimens of phanerogams obtained in the western United States by Dr. W. W. Eggleston are especially noteworthy, as are 675 phanerogams from the United States and western Canada collected by Prof. Hitchcock.

The New York Botanical Garden contributed 1,649 specimens, mainly West Indian but embracing a set of 262 mosses from the Philippine Islands. From the Bureau of Science in Manila were received 4,830 specimens, obtained chiefly in the Philippines though about 930 were from China, the Malay Peninsula and Kamerun. A valuable collection of approximately 8,000 plants from the Canary Islands, obtained under her direction a number of years ago, was presented by Mrs. O. F. Cook. About 3,000 specimens from South America, gathered by Dr. J. N. Rose in the course of his investigation of the cactus flora of western South America during the summer of 1914, were contributed by the Carnegie Institution of Washington.

Among other important accessions were 2,500 miscellaneous phanerogams, the gift of Mr. D. LeRoy Topping, of Manila, P. I.; 500 algae from North Carolina, deposited by the Bureau of Fisheries; 610 specimens of Arizona plants presented by Mrs. Walter Hough, of Washington; and 395 plants from Maine presented by Dr. Dana W. Fellows, of Portland, Me. Mr. Paul C. Standley and Mr. H. C. Bollman collected 790 plants for the Museum in New Mexico; about 3,900 specimens of New Mexican plants were obtained from the New Mexican Agricultural College in exchange; and 585 specimens from Mexico were purchased.

The number of plants mounted for the general herbarium during the year was 17,700. The greater part of these were also registered in the permanent record books and await distribution to their proper places in the cases, as do also the phanerogams of the Charles Mohr collection, which have now been made ready for this purpose. The work of arrangement has, as usual, been greatly delayed by more urgent matters of routine, such as attention to the current accessions, the identification of miscellaneous specimens sent to the Museum from many sources, and the preparation of specimens for lending and for exchanges. The withdrawal of Dr. Edward L. Greene's collection, which had been on deposit for some 10 years, released sufficient space to permit of provision for a continuous arrangement of the entire phanerogamic study series, with some additional room for relieving the congestion which was becoming rather serious.

The segregation of type and duplicate type specimens of phanerogams, referred to in the last report, was continued by Mr. Standley, and more than 2,000 specimens were labeled, recorded and added to

the series. The purpose of this work is to insure greater safety to the choicer parts of the collections, the parts which could not be replaced, and which in the general herbarium might be subjected to rougher usage. By this arrangement also the types are made more accessible. The important task of putting the cryptogamic collections into proper shape was, unfortunately, interrupted by the resignation of the aid employed for that purpose. A beginning, however, had been made by preparing complete generic indices of the algae, fungi, lichens, hepaticae and musci, based upon the "Natürlichen Pflanzenfamilien" of Engler and Prantl, and the algae were all mounted and rearranged. Similar work on the lichens had also been started.

Mr. Frederick V. Coville, curator of the division, continued his studies of the genus *Vaccinium* begun a number of years ago. The preparation of a new local flora covering the flowering plants and vascular cryptogams of Washington and vicinity, proposed by Prof. A. S. Hitchcock and Mr. William R. Maxon, will have the benefit of his general supervision. Dr. J. N. Rose, associate in botany, has still in progress his investigation of the Cactaceae under the auspices of the Carnegie Institution of Washington. At the close of the year he was conducting field investigations in southern Brazil and Argentina.

Mr. William R. Maxon, associate curator, was the author of several short papers describing new species or containing revisions of small groups of species, and continued general work upon the ferns of North America, especially of the genus *Polypodium*. Mr. Paul C. Standley, assistant curator, prepared a number of brief papers, including one relating to the families Chenopodiaceae and Amaranthaceae for the North American Flora. The Flora of New Mexico, the joint work of Prof. E. O. Wootton and Mr. Standley, was published as volume 19 of the Contributions from the National Herbarium. Mr. G. P. Van Eseltine, aid, previous to his resignation in May, had undertaken a revision of the North American species of *Selaginella* of the *S. rupestris* group, on which a preliminary paper was submitted for publication. Mr. E. S. Steele, editorial assistant, devoted as much time as could be spared from his regular duties to the study of the genus *Laciniaria*. Dr. E. L. Greene, associate in botany, made some progress with the second part of Botanical Landmarks, while Capt. John Donnell Smith, also associate in botany, continued his studies of Central American plants.

The herbarium was consulted by many members of the scientific staff of the Department of Agriculture. Among other professional botanists who conducted researches in the division were Prof. J. N. F. Wille, director of the Botanical Garden and Museum at Christiania, Norway; Prof. W. A. Setchell, of the University of California;

Dr. N. L. Britton, director of the New York Botanical Garden, and Dr. P. A. Rydberg and Dr. F. W. Pennell, of the same establishment; Mr. F. Tracy Hubbard, of Cambridge, Mass.; and Mr. E. D. Merrill, botanist of the Bureau of Science, Manila, P. I.

A larger number of plants were lent for study and determination than in the previous year, and while many of these were supplied for the benefit of the applicant, in most cases the Museum was equally the gainer in obtaining authoritative identifications of the specimens borrowed. The principal sendings were as follows: An aggregate of 877 specimens to the New York Botanical Garden, comprising material in many families of phanerogams and several groups of cryptogams; 312 specimens of Euphorbiaceae to the Field Museum of Natural History for the use of Dr. C. F. Millspaugh; 320 lichens to Mr. G. K. Merrill, of Rockland, Me., for identification; 607 specimens to the Gray Herbarium of Harvard University, for the use of Mr. G. S. Torrey, Mr. Harold St. John, and Dr. B. L. Robinson, curator of the Herbarium; 161 specimens of algae of the order Zygnemales to Prof. E. N. Transeau, of Charleston, Ill., who is making an extended investigation of this difficult group; and 291 specimens of *Senecio* to the Missouri Botanical Garden for study by Dr. J. M. Greenman, the principal American authority on this group.

Work of preparators.—The preparators were mainly employed in mounting specimens for filling gaps in the exhibition collections and replacing old and poorly preserved specimens with fresh ones. During the last three months of the year, however, attention was chiefly paid to the installation of the large cast and skeletons of whales in the new building. Mr. George B. Turner, chief taxidermist, with his assistant, Mr. William L. Brown, mounted eleven large and medium sized mammals, and modeled and cast two other specimens which are ready for the skin. They also did much work of repair and renovation, and rebuilt the accessory parts of the African buffalo group, a difficult and tedious task, as the plants brought from Africa, though well preserved, required prolonged treatment before they could be made presentable. Mr. Nelson R. Wood, bird taxidermist, mounted 75 birds for exhibition, and remounted and renovated 30 more, besides preparing a number for the study series. Mr. George Marshall was chiefly engaged in mounting small and medium sized mammals and otherwise assisted in the installation of exhibits.

Mr. J. W. Scollick, osteologist, cleaned and prepared skeletons and skulls of mammals, birds, turtles and fishes to the number of 894 specimens; took an important part in the transfer of the whale skeletons, their renovation and reinstallation; and remounted the skeleton of the extinct Steller's sea-cow. He also cleaned over 2,000 specimens of corals for study purposes. Mr. C. E. Mirguet, preparator, remodeled and reinstalled the large American alligator which had been

in storage for some years, and remounted the okapi skeleton. During the latter part of the year, his time was entirely occupied in connection with the moving of the whale collection and its arrangement in the new building. Mr. William Palmer, preparator, combined the two groups of Carolina parakeets into one, which included the modeling of a large hollow tree and the making and arrangement of new accessories. He also moved to the new building, and repaired and repainted, the models of the giant squid and octopus, and greatly improved the faunal exhibit of the District of Columbia, both by preparatorial work and by the addition of species of mammals, birds, reptiles and batrachians.

Exhibition collection.—While no large groups of mammals were added to the exhibition series, several of those previously installed were materially changed and improved. When the African groups of buffaloes and zebras were prepared a few years ago there were no accessories from Africa at hand and material from local sources was introduced, pending arrangements for representing these animals in settings actually illustrating their natural environment, as was done with so much success in connection with the hartebeest and rhinoceros. Upon the arrival from Africa, during last year, of the necessary material, these two groups were revised by their builder, Mr. Turner. The buffaloes are now represented on the edge of a papyrus swamp, the highly characteristic habitat of this animal, producing a striking scene not to be witnessed elsewhere than in the home of this animal, and the substitution of this peculiar vegetation effectually breaks up the monotony of the surroundings of the other groups, which show various phases of the arid regions. The new accessories of the zebra group, though naturally characteristic of the arid regions, present an aspect distinct from that of the others through the introduction of broken volcanic rock and different vegetation. The appearance of another mammal group, that of the Spitsbergen polar bear with its two cubs bending over a young seal carcass, was also improved by being transferred to a larger case, with a new and more effective base.

Of new individual mountings introduced in the mammal series, especially noteworthy was the large and rare Père David deer from China, differing strikingly from all other deer in the length of its tail and the peculiar shape of its antlers. Another equally remarkable form was the long-necked antelope, known in its African habitat as the gerenuk, characterized by the extreme elongation of its legs, neck, and lips, whereby it is enabled to browse upon the leaves of shrubs and trees to a considerable distance from the ground. A fine specimen of the large Paraguay jaguar was also added, and new and excellent preparations of the male Virginia deer and the Australian dog, the dingo, replaced old and poorly mounted skins of the same forms. Less conspicuous, but of equal importance to the

series and showing much artistic merit in their mounting, were numerous small mammals belonging in various faunal sections of the exhibition. Three of the large African antelope cases were rearranged, the specimens being removed from their old wooden bases and placed directly on the floor. This is considered to have been an advantageous change, as it permits greater latitude in the installation. As not all of the specimens were mounted to stand on a perfectly level surface, the bottoms of these cases have been covered with a thin layer of sand, stained to match the olive paint of the floor, a color so neutral as not specially to attract attention.

A noteworthy addition to the bird exhibition was a large group representing a flock of Carolina parakeets just waking from their night's rest in a hollow tree and beginning to feed. These birds were formerly displayed in two small groups, neither of which was wholly satisfactory. The combination has been eminently successful in creating a charming group which illustrates various interesting characteristics in the habits of the only North American member of the tropical parrot family. By the introduction of a light cover of snow, beautifully contrasting with the gay plumage of the birds, the fact is emphasized that this parakeet, unlike any others of the family, once inhabited almost the entire eastern part of our country with its rigorous climate.

But few additions or alterations were made in other sections of the exhibition collections of zoology. A very large American crocodile and an equally large alligator in metal and glass cases were substituted for the two small specimens in old-fashioned wooden cases. In connection with the invertebrate series the principal change consisted in the removal of the two casts of giant cephalopods, one a squid, the other an octopus, from the Smithsonian building to the west range of the new building. As these specimens had to be taken apart and rebuilt and repainted, the task was one of considerable magnitude.

During the latter part of the year all of the exhibition materials illustrative of the whales then remaining in the older Museum building were transferred to the new building, where their installation in the south hall of the second story of the west wing was immediately begun. Among these specimens, all of which are of large size, were the cast and skeleton of the giant sulphur-bottom whale, which have attracted so much attention.

Explorations.—Without funds for carrying on extensive field work, the department of biology has been dependent upon the cooperation of friends and of collectors and travelers generally, to some of whom outfits are supplied, for the acquisition of new materials from regions not covered by the national surveys. Dr. W. L. Abbott, as in former years, has given most material assistance in this respect.

While not personally conducting any explorations during the past year, he continued to maintain Mr. H. C. Raven in the field, with most important results. After finishing his work in Borneo in July, 1914, Mr. Raven crossed to Celebes, where he conducted a very successful campaign of collecting until his return to this country near the close of the year. The material from Celebes can not fail to be of great value, as this interesting island has been very poorly represented in the Museum.

The collections from the expedition of Mr. John B. Henderson to northwestern Cuba, alluded to in the last report, did not reach the Museum until within the past year. They contain not less than 10,000 specimens, mostly marine invertebrates, but with numerous terrestrial examples. Mr. Henderson again visited Cuba during last year in search of mollusks, in which connection the Museum also profited, as well as by his dredging operations in southern Florida conducted from his yacht *Eolis*.

Various explorations under the Carnegie Institution of Washington have, through the generous attitude of that establishment, resulted in substantial additions to the Museum collections. Foremost among these was the expedition of Dr. J. N. Rose, associate in botany, during the summer and autumn of 1914, to the west coast of South America to secure material for his monograph of the Cactaceae. His work was mainly confined to Peru and Chile, and besides a very large number of cacti, he brought back many specimens of other groups, aggregating in all some 3,000 specimens, which were placed in the National Museum on permanent deposit. With the aid of grants from the Carnegie Institution, Dr. T. Wayland Vaughan, custodian of madreporarian corals, has for some time past undertaken a series of investigations chiefly in the West Indian region relative to the growth of corals, their rôle in reef building and related problems. In pursuance of this work he has made trips to Florida, the Bahamas and other West Indian localities, and has received the assistance of Dr. A. G. Mayer and his staff of collectors at the Tortugas Marine Biological Laboratory. Extensive collections have reached the Museum from this source. Dr. Mayer's own expedition to the Murray Islands in the gulf between North Australia and New Guinea, not far from the eastern entrance to Torres Strait, added about 300 specimens representing some 75 species. In connection with the West Indian researches it was desired to obtain corals and other marine invertebrates from St. Thomas, which had not been visited, and Mr. C. R. Shoemaker, of the Museum staff, was detailed to this duty, at the expense of the Museum, but his departure was delayed until the middle of June. The colonies of *Cerion* mollusks which Dr. Bartsch, under the auspices of the Carnegie Institution, had transplanted from the Bahamas to certain Florida Keys for the

purpose of observing the development of new generations of these shells in a new environment were visited by him for the third time in the latter part of June.

Mr. Arthur de C. Sowerby continued his explorations in Manchuria and northeastern China and forwarded a number of valuable collections of vertebrates and insects. Mr. Copley Amory, jr., collaborator in zoology, joined an expedition to northeastern Siberia, which sailed from Seattle about the end of June, 1914, in the schooner *Eagle*. It was the intention to winter not far from the river Kolyma. General biological collections were to be made, though Mr. Amory expected to pay special attention to mammals. When last heard from, the expedition had reached its destination, but no results have yet been reported. Dr. Fred Baker, of Point Loma, Cal., continued his collecting and exploring work in the Orient throughout the year and sent various interesting contributions, notably a collection of fishes from Formosa.

In August and September, 1914, Mr. Paul C. Standley, of the Museum staff, and Mr. H. C. Bollman, of the Smithsonian Institution, visited northern New Mexico and spent some time camping in the mountains of a little known region at the Brazos Canyon in Rio Arriba County, where they secured about 790 specimens of plants for the Museum, among them a number of species not previously recorded from that State. Mr. James Zetek, of Ancon, Canal Zone, who conducted field investigations for the purpose of obtaining exhibits for a Panama Canal exposition to be held on the Isthmus, presented valuable duplicate material in return for the identification of species.

Government explorations by which the department of biology was benefited were mainly those of the Bureau of Fisheries and of several bureaus of the Department of Agriculture. The commission of three naturalists sent to the Pribilof Islands by the Department of Commerce to study and report on certain questions in the life history of the fur seals brought back a splendid series of the skulls of these animals. The biological survey of San Francisco Bay, which is being conducted by the steamer *Albatross* of the Bureau of Fisheries, is destined to result in collections of vast extent. The greater part of the crustaceans so far collected and sent to the Museum for study aggregate some 9,000 specimens. From a survey of the fishing banks off the coast of Oregon and Washington, by the same steamer, about 800 specimens of miscellaneous invertebrates have been received. Finally the hydrographic and biological explorations in the Gulf of Maine by the steamer *Fishhawk* of the same Bureau, under the direction of Dr. H. B. Bigelow, were productive of a large amount of interesting material mainly from the plankton, including about 275 specimens of Medusæ identified by Dr. Bigelow.

Several botanists of the Bureau of Plant Industry made extensive collections of plants which have been deposited in the Museum. Among these were 1,500 specimens of phanerogams obtained in western States by Mr. W. W. Eggleston, and 675 phanerogams from the same region and western Canada secured by Dr. A. S. Hitchcock.

DEPARTMENT OF GEOLOGY.

The department of geology received 202 accessions, with a total of 134,044 specimens, distributed among the several divisions and sections as follows: Systematic and applied geology, 878; mineralogy and petrology, 3,185; invertebrate paleontology, 129,718; vertebrate paleontology, 196; and paleobotany, 67. The miscellaneous material sent in from various sources for examination and report amounted to 515 lots, of which 282 consisted of minerals, 190 of geological specimens and 43 of fossils. While the Museum is not equipped for making detailed or quantitative analyses, simple determinations generally suffice to decide the character and value of such rocks and minerals as are submitted, and it may be further said that of all of the specimens received in this connection during the year only 30 were of any interest to the department.

Systematic and applied geology.—A collection illustrative of the economic geology of the feldspar deposits of the United States, described by Mr. Edson S. Bastin, and including material suitable for exhibition, was deposited by the Geological Survey. Through the personal solicitation of Mr. Frank L. Hess, of the same Survey, a fine exhibition specimen of ferberite-bearing pegmatite from Arizona was presented by Mr. S. H. Brockunier, of Nevada City, Cal.; two exhibition specimens of tungsten ore, by The Wolf Tongue Mining Co., of Boulder, Colo.; a roscoelite-bearing sandstone from the Primos Chemical Company's mine in San Miguel County, Colo., by Mr. Harold Boericke, of Vanadium, Colo.; and a sample of ferro-vanadium, made from the patronite ores of Minasragra, Peru, by The American Vanadium Co., of Pittsburgh, Pa. A contribution from The Georgia Marble Co., of Tate, Ga., consists of four matched slabs of marble, constituting an attractive wall panel; and another from The Evans Marble Co., of Knoxville, Tenn., comprises two matched slabs of the beautiful Roseal marble, which also form an ornamental wall panel.

The meteorite collection was enriched by gift, exchange and purchase. Among the first were a slice of the Willamette iron, weighing 1,954 grams, from Mr. Clarence S. Bement, of Philadelphia, Pa.; a 200-gram slice of the Delegate, New South Wales, iron, from the Department of Mines, Sydney; a 160-gram slice of the Gilgoi stone, from Mr. John C. H. Mingaye, of the same department; and a 145-

gram slice of the Roebourne, Australia, iron, from Mr. Frank L. Hess, of the U. S. Geological Survey. The specimens obtained by exchange consisted of a fine exhibition 998-gram piece of the Tensasilm, Russia, meteoric stone, from Dr. F. Krantz, of Bonn, Germany; fragments of the Manbhoom and Lodhran falls, from the Indian Museum, Calcutta; fragments of the Bethany and Matatiela irons and St. Mark's stone, from the South African Museum, Cape Town; and a 112-gram fragment of the Waconda stone, from Dr. Charles U. Shepard, of Summerville, S. C. The purchases comprised a 201-gram piece of the Ensisheim meteoric stone and a 17-gram piece of that of Hainholz, the former being of unusual interest in that it is a fragment from the oldest known meteoric stone still preserved, the fall having occurred on November 16, 1492. It is further gratifying to note the deposit by the National Academy of Sciences of fragments of 12 meteorites, representing the residues from purchases made in connection with investigations by the head curator of the minor constituents of meteorites, under a grant from the Academy. Twenty of the peculiar glass pebbles found in Australia, assumed by some to be of meteoric origin, but the nature of which has been a puzzle to all writers since the appearance of Darwin's narrative of the voyage of the *Beagle*, were purchased.

All of the material, both metallic and nonmetallic, stored in the attic and in the American cases in the exhibition hall, was carefully examined with the object of verifying localities and mineralogical determinations. It is expected that this work, together with the classified arrangement, can be so perfected that each specimen may be treated as a book in a library, to be quickly located by reference to a card catalogue. Practically the entire series of supposed duplicate material was compared specimen by specimen with the reserve series, with the result that some 675 specimens were transferred from the former to the latter, and the number of duplicates was reduced correspondingly. A large quantity of miscellaneous ores received from the St. Louis exposition in 1904, being the excess above the needs of the division, were broken up, classified and labeled, preparatory to incorporation in educational series. The duplicate folio sets of rocks, described in the last report, were listed and segregated into lots in such a manner as to simplify the work of exchanges. This has involved going over the entire collection of rocks deposited by the Geological Survey, a task of considerable magnitude.

The most systematic investigation of the year related to the meteorite collection, which was thoroughly overhauled and studied in continuation of the work of the head curator, Dr. George P. Merrill, on the minor constituents of meteorites, the results being summed up in a paper to be published by the National Academy of Sciences.

Dr. Merrill also prepared and submitted for publication an illustrated handbook and catalogue of the meteorite collection in the National Museum, in which an attempt has been made to include descriptive matter of value to the student, although presented in such a way as to make it of interest to the general public. A second line of research, one of economic importance and mentioned in the last report, had for its object the determination of the relative solubility in water charged with carbonic acid of some of the most widely used limestones and marbles. Seventy-five samples, including nearly half as many varieties, were tested for periods varying from 70 to 90 days, and the conclusions prepared for publication.

As in previous years, Dr. Merrill was called upon on several occasions for expert advice as to the quality of stone submitted for the construction of Government buildings or of buildings to be erected under Government supervision. The Lincoln Memorial and the Red Cross Building were the principal structures to which his attention was asked during last year.

Mineralogy and petrology.—The most important accession of the year was a bequest from the late Brig. Gen. William H. Forwood, U. S. Army, comprising several hundred specimens of minerals and cut stones, of greatest interest being a suite of unique titanite crystals from an exhausted locality at Bridgewater, Delaware County, Pa. The Geological Survey transferred various lots of gem minerals, in both rough and cut form, selected especially for exhibition by Mr. D. B. Sterrett, honorary custodian of gems and precious stones, and including 4 specimens of turquoise, figured in Dr. J. E. Pogue's monograph on this mineral, recently published by the National Academy of Sciences. Additional specimens from the Survey are also of exceptional value, consisting for the most part of types of new species or restudied and redescribed material from new localities. Among them are a large mass of shattuckite and bisbeeite (new species) from Bisbee, Ariz.; a large crystal of columbite, variety manganotantalite, from San Diego County, Cal.; cuscuterite (new species) from Idaho; cebollite (new species) and an unusually large cleavage specimen of melilite recently discovered in Colorado; the rare mercury minerals montroydite, eglestonite, kleinite, terlinguite and calomel, from Terlingua district, Tex; variscite and lucinite (new species) from Lucin, Utah; ferberite crystals from Colorado; struverite from South Dakota; neptunite from California; fremontite (new species) from Cañon City, Colo.; and vesuvianite, bournonite and prehnite from new localities.

Col. Washington A. Roebling, of Trenton, N. J., contributed one of the largest known nuggets of osmiridium, weighing 40 grams; Mr. Clarence S. Bement, of Philadelphia, Pa., two large crystals of

phenacite and a fine exhibition specimen of the rare mineral tarbuttite; and Mr. Frederick A. Canfield, of Dover, N. J., a sample of the rare mineral roepperite, from Sterling Hill, N. J. Through the influence of Mr. Victor C. Heikes, of the Geological Survey, some interesting pseudomorphs from the Blue Jay Copper Mine and scheelite crystals from the Wilson Bismuth Mine, Utah, were presented by Mr. Harvey Hardy, of Goodsprings, Nev., and Mr. Frank Wilson, of Salt Lake City, Utah. From Dr. William S. Disbrow, of Newark, N. J., were obtained, by gift and in exchange, 10 fine exhibition specimens of minerals from northern New Jersey, and an exceptional lot of large rhodonites from Franklin Furnace in the same State, which are of especial value inasmuch as the locality is no longer accessible to collectors.

The accessions in petrology consisted, as usual, largely of studied material representing folio series, transferred by the Geological Survey. They included minerals and ores from the San Francisco and adjacent districts, Utah; rocks illustrating the geology of the Engineer Mountain and Ouray quadrangles, Colo.; rocks with thin sections from the National district, Nev.; rocks and ores from the Dillon quadrangle, Mont.; rocks and ores from the Jarbridge and Contact mining districts, Nev.; and rocks and ores, with thin sections, from the Hardscrabble mining district, Colo. Type collections from the following districts were also deposited, namely, White Mesa and Bently, Ariz.; Hayden Hill, Winters and High Grade, Cal.; and Miners Basin and Wilson Mesa, Utah.

Mention should also be made of an interesting series of obsidians from Iceland, presented by Dr. F. E. Wright, of the Geophysical Laboratory of the Carnegie Institution of Washington, illustrating his studies on the origin of spherulitic structure. The material is of further value as throwing some possible light on the origin of the peculiar obsidianites from South Australia.

The collections illustrating the radio-active minerals, noted in the last report, were rearranged and many labels added, and several new exhibits were also installed. The type and described specimens in the collection, such as are not desired for exhibition, were brought together in the laboratory of the assistant curator, where they will be more readily accessible for reference. A card catalogue of this type material has been prepared. The duplicate minerals stored in the attic were overhauled and arranged alphabetically in a manner to permit of locating any species without delay.

The assistant curator of mineralogy, Dr. Edgar T. Wherry, devoted some time to a detailed investigation of the oölitic structures as represented in material from Bethlehem, Pa., and also to a study of the possibilities of the microspectroscope in determinative mineralogy. These have been made the subjects of papers, one of which

was published in the Smithsonian Miscellaneous Collections, the other being now in press. The results of other researches have been incorporated in an article entitled "Notes on allophanite, fuchsite and triphylite," to be printed by the Museum.

Invertebrate paleontology.—An extensive and important series of Devonian fossils, representing practically the life-long collecting of Prof. Henry Shaler Williams, was deposited by the Geological Survey. Containing no type or figured specimens, its value rests mainly upon the fact that it includes many faunas heretofore lacking in the Museum collection. Other transfers from the Survey aggregated nearly 600 specimens of type and other monographic material. About 5,000 specimens of European Paleozoic and Mesozoic fossils were received in exchange from the K. K. Naturhistorisches Hofmuseum, Vienna, Austria, and 54 species of Mesozoic sponges, useful for exhibition purposes, from Dr. A. Schrammen, of Hildesheim, Germany. Some 6,000 specimens of Ordovician and Silurian fossils from Illinois, Indiana and Kentucky were purchased. The New York State Museum at Albany, N. Y., through its director, Dr. John M. Clarke, contributed to the exhibition series a large slab containing numerous specimens of the Devonian glass sponge, *Hydnoceras bathense*.

Other important accessions consisted of about 5,000 Cambrian fossils from China transferred by the Smithsonian Institution; and a collection made for the Museum by Dr. Bassler, curator of the division, being the results of his field work in 1914, undertaken mainly to further the preparation of his monograph on early American Tertiary Bryozoa.

The routine work consisted in the preparation and classified storage of new collections, especially those from the Geological Survey and from Secretary Walcott. Two hundred standard drawers of Upper Cambrian fossils from the upper Mississippi Valley and the great collection of Cambrian and pre-Cambrian algae, which have been the subject of investigation by Dr. Walcott for some years past, were overhauled and the materials for further study and illustration carefully selected, the duplicates being set aside for distribution. This work extended also to the Paleozoic collections in general, including the unpacking and arrangement for final study of the Devonian collection from Prof. Henry S. Williams, which required some four months' time on the part of the curator and one assistant to place in suitable museum shape. Several hundred boxes which had been stored for many years were unpacked and the contents systematized and reduced to about one-third their former bulk.

The Ordovician collections, which are very extensive, were consulted by Dr. E. O. Ulrich, associate in paleontology, in connection with his monographic work on the Canadian faunas. Dr. T. W.

Stanton and Mr. T. E. Williard have cared for all the Mesozoic material received. Dr. William H. Dall reports, with reference to the Cenozoic collections, that the work has consisted in indexing and arranging the specimens in new steel cases, and in the preparation of a catalogue of Pacific coast species. Dr. T. W. Vaughan spent much time in the study and arrangement of the Tertiary corals, which are now in fairly good condition. The curator himself devoted some weeks to the preparation of the collection of Tertiary Bryozoa obtained by him in 1914; and Mr. Frank Springer, associate in paleontology, retained supervision of the fossil echinoderms.

Secretary Charles D. Walcott continued his researches on algal and concretionary-like material in the Cambrian limestones, and conducted an investigation of the Appalachian faunas, especially of the Cambrian period, with a view to their correlation. A contribution on this subject is nearly ready for publication. Definite progress was also made in the study of the Cambrian trilobite fauna, which has for several years been under consideration. A work now in hand correlates the results of Dr. Walcott's inquiries for the past ten years and brings the data into comprehensive form for the general reader. Dr. William H. Dall made considerable advancement with the monograph of the Pacific coast Tertiary mollusks and with his studies on the fossil molluscan fauna of Panama, and prepared an account of the fossil mollusks collected by Dr. T. W. Vaughan along the Flint River in Georgia. Mr. Frank Springer reported progress on his monograph on the *Crinoidea flexibilia*; his monograph on the crinoid genus *Scyphocrinus* has been completed but its publication has been delayed pending further field work. Mr. E. O. Ulrich was still occupied with his researches on the Canadian faunas, and the curator of the division, Dr. R. S. Bassler, made good progress on his monograph of the early Tertiary Bryozoa of America. Miss M. J. Rathbun described the Tertiary decapod crustaceans of Panama, comprising 61 species, of which 38 are new to science, 3 representing new genera and 1 a new family; and also the crustaceans of the same group collected by Mr. L. W. Stephenson in the Upper Cretaceous of North Carolina, and the like forms obtained in the Leeward Islands by Dr. Vaughan.

Prof. Charles Schuchert, of Yale University, completed his important work on the fossil starfishes, begun during his connection with the Museum, and it has been published as a Museum bulletin. Dr. T. D. A. Cockerell, of Boulder, Colo., studied the collection of fossil insects from England, on which a report has been submitted. Members of the Carnegie Institution of Washington frequently made use of the collections, while among others who visited the Museum for the same purpose were Miss Julia Gardner, of Johns Hopkins University; Prof. Stuart Weller and Mr. H. E. Wilson, of the

paleontological department of the University of Chicago; Prof. Gilbert Van Ingen, of Princeton University, and graduate students of several universities.

Vertebrate paleontology.—To Mr. John B. Henderson the Museum is greatly indebted for meeting the expense of the final collecting from the cave deposit at Cumberland, Md., described in previous reports. The specimens obtained, recorded as a gift from Mr. Henderson, comprise 15 more or less complete skulls and other fragmental material. Portions of a mastodon from Winamac, Ind., presented by Mr. W. D. Pattison of that place, are exceptionally interesting as Mr. Pattison has given permission to unearth the remaining parts, which, it is expected, will enable the Museum to make a practically complete mount, for exhibition, of a very large specimen. A third important contribution, from Dr. G. R. Wieland, of the Peabody Museum of Yale University, consists of 30 dinosaurian skin plates from the Lance formation of Wyoming, being the largest series of dermal ossifications known from that formation. A number of the specimens have been figured by Dr. Wieland.

A composite skeleton of a dog, and three skulls and lower jaws, from the La Brea asphalt deposits of California, were received in exchange from the University of California. Two purchases of noteworthy material were made. One consisted of vertebræ, skull, lower jaws, and portions of the paddles of the extinct swimming reptile *Mosasaurus*, from the Bearpaw formation of Montana; the other of the upper part of the skull of a rare fossil sirenian from Oregon.

The routine work, other than that of the preparators, consisted largely in systematically arranging and classifying specimens, as they are made ready, in the new steel cases, and while this labor has not yet been brought down to date the collection is now in much better condition than ever before. In the matter of cleaning up the remaining material of the Marsh collection, Mr. Gilmore reports the completion of the preparation of all ceratopsian material from the Upper Cretaceous formations of Wyoming, comprising several skulls and other skeletal remains, including a fairly complete skull of *Triceratops obtusus* Marsh, and portions of the skeleton of *Triceratops calicornis* Marsh. The skull of *Triceratops obtusus* was restored and mounted. The mammalian material prepared, according to Mr. Gidley, consisted chiefly of skulls or jaws of Titanotheres. In all, the contents of 57 boxes from the Marsh collection were disposed of. Unfortunately, in the attempt at an early reduction in the large number of boxes, necessitated by lack of storage space, the materials most easily cleaned were the first to receive attention, and the work now proceeds much more slowly owing to the extreme hardness of the matrix in which most of the bones are embedded, and the fragmental character of the latter.

In addition to the above is to be recorded the restoration and mounting of the skull of *Brachyceratops montanensis*, this difficult piece of work having been well accomplished by Mr. Norman Boss. The type of *Stylemys nebrascensis* and that of *Rutiodon carolinensis* were also mounted, and the preparation of a fairly complete skeleton of *Allosaurus fragilis* was well under way. Among mammals complete skeletons of a fossil peccary, a unique horned rodent, *Epigaulus hatcheri*, and a large Pleistocene dog, *Canis dirus*, were made ready, their final mounting, almost wholly the work of Mr. Thomas Horne, leaving little to be desired. About 100 more or less fragmental specimens from the Cumberland cave deposit were cleaned.

Mr. Charles W. Gilmore, assistant curator in charge of fossil reptiles, completed and submitted for publication by the Geological Survey a paper on *Brachyceratops*, a ceratopsian dinosaur from the Two Medicine formation of Montana. He also contributed on the osteology of *Thescelosaurus*, on the fore limb of *Allosaurus fragilis*, on the genus *Trachodon*, and on a new restoration of *Stegosaurus*. Good progress was made on a monographic study of the carnivorous dinosaurs represented in the Museum, a work which can not, however, be finished for some time.

Mr. James W. Gidley, assistant curator in charge of fossil mammals, continued his work on the Fort Union mammals, which, though previously reported as nearly ready for publication, has been held for revision, in view of further discoveries of material. He likewise began a detailed investigation of the Pleistocene fauna represented in the large collections from the Cumberland cave deposit, to which reference has already been made. Now that the collecting from this deposit has been completed, it is expected that the descriptive work may be brought to an early conclusion. Mr. Gidley, in conjunction with Mr. Gerrit S. Miller, jr., of the division of mammals, spent several months in the study of the fossil and living rodents, which will comprise a revision and reclassification of the entire order.

The results of a revision of the Museum collection of fossil fishes have been embodied in a report by Dr. Charles R. Eastman, submitted for publication. Dr. O. P. Hay, in continuation of his work on the vertebrate life of the North American Pleistocene period, under the auspices of the Carnegie Institution of Washington, has been instrumental in adding to the value of the collections. Among others who consulted or made use of the fossil vertebrate collections were Dr. E. H. Sellards, State Geologist of Florida; Dr. W. J. Holland, director of the Carnegie Museum at Pittsburgh, and Messrs. Arthur and Louis Coggeshall, of the same museum; Mr. C. H. Sternberg, of the Canadian Geological Survey, and Mr. W. E. Cutler, of Calgary, Canada; Prof. Henry T. Osborn, Dr. W. D. Matthew, and Dr. W. K.

Gregory, of the American Museum of Natural History; and Prof. W. B. Scott, of Princeton University.

Paleobotany.—A somewhat fragmental and distorted stump from the Stanley Mine at Sykesville, Pa., fairly satisfactory as an exhibition specimen, was the only addition, worthy of mention, received by this section. The collection of fossil plants is undergoing rearrangement under the three great geological divisions, Paleozoic, Mesozoic and Cenozoic, the intention being to build up a stratigraphic series representing the floras of all the different geological localities, and a biologic series illustrating classification, and containing the type specimens. This work is being carried on under the supervision of Dr. David White, associate curator of paleobotany, and Dr. F. H. Knowlton, custodian of Mesozoic plants.

Dr. Knowlton completed a monograph on the Laramie flora of North America, a work which he has had in progress for some years. Dr. G. R. Wieland, of Yale University, devoted considerable time to the study of the fossil cycads, and Dr. Arthur Hollick, of the New York Botanical Garden, to the Cretaceous and Tertiary floras of Alaska. Dr. E. W. Berry, of Johns Hopkins University, also made extensive use of the collections.

Exhibition collections.—Aside from the occasional insertion of new material in the exhibition series already established, the principal changes in the exhibition halls were as follows: In systematic geology two cases illustrating the characteristic rock and mineral associations of the pegmatites of the eastern United States were installed. In economic geology two heavy granite posts of Minnesota marble, a column of coralline marble from England, and 10 large slabs of native and foreign marbles were added to the building-stone collection. The ore series was increased by one large mass of nickeliferous pyrrhotite with silicate inclosure, from the Gap Mine, at Lancaster, Pa.; two fine samples of Japanese copper ore weighing upward of 200 pounds each; an unusually fine series of tungsten and vanadium ores; a case devoted to illustrations of the genesis of iron ores; and two cases illustrating the occurrence and mineral association of the zinc ores of Sussex County, N. J., and southwestern Missouri.

In the mineral hall seven new flat-top cases were introduced, two of which are devoted to recent accessions, one to newly described minerals, two to the Shepard collection of minerals, one to models of gems of historical interest and artificial gems, and one to gem minerals in the rough with stones cut from the same.

The exhibit of fossil invertebrates was enlarged by one upright case of crinoids representing the fauna of the upper Mississippian formations, a flat-top case of sponges, and two American and one flat-top case in which are illustrated the evolution and classification of the

trilobites. To the vertebrate series were added a mounted skeleton of the horned rodent, *Epigaulus hatcheri*; a fossil peccary from the Cumberland, Md., cave deposit; a large Pleistocene dog from the La Brea asphalt deposits of California; a skull of *Triceratops obtusus* and one of *Brachyceratops montanensis*; an entire case devoted to ceratopsian remains, among which is a partial skull sectioned longitudinally through the center to show the small size of the brain cavity; and the types of *Stylemys nebrascensis* and *Rutiodon carolinensis*.

Explorations.—As in previous years the principal field work carried on had reference to paleontological investigations. Secretary Charles D. Walcott conducted operations during the summer of 1914 at Glacier, British Columbia, and in the region of the Big Elk Mountains of Montana; and in the spring of 1915 he passed a few days examining a newly discovered locality for fossil algal material in Maryland. Mr. Frank Springer's private collector spent four months in collecting fossil echinoderms along the recent excavations of the Erie Canal and at other localities in western New York, and Dr. R. S. Bassler gave two weeks to a study of the Middle Paleozoic rocks of Tennessee, Kentucky, and Ohio. Mr. James W. Gidley completed his field work in connection with the Cumberland, Md., cave deposit, and Mr. Charles W. Gilmore was detailed for three weeks to accompany a Geological Survey party into the region of the Judith River formation along the Missouri River in central Montana. In June, Mr. Gidley began the exhuming of certain mastodon remains near Winamac, Ind., but this work had not been completed at the close of the year.

The head curator, Dr. Merrill, and Dr. Wherry were each in the field for a few weeks but not under the auspices of the Museum. It is interesting to note that arrangements have been made with Dr. W. T. Schaller, of the Geological Survey, who is engaged in a study of the gem-bearing pegmatites of Mesa Grande, Cal., whereby it is expected that the Museum will secure for exhibition purposes a type series of these rocks and their associated minerals. A like arrangement was entered into with Dr. J. E. Pogue, formerly assistant curator of minerals, who left for the field at the very end of the year, to obtain a similar collection from the emerald-bearing pegmatites of Colombia, South America. The Koren expedition into northeastern Siberia, through the instrumentality of which it is hoped to obtain important mammalian remains, has not yet returned and no report of progress has been received.

In this connection, mention may be made of the services of Mr. Victor C. Heikes and Mr. Frank L. Hess, both of the Geological Survey, through whose interest in the Museum, while in the field, a

considerable amount of important material has come into possession of the Museum, as noted under the head of accessions.

ARTS AND INDUSTRIES.

Textiles.—There was an increase over the previous year in the extent and value of the additions to the collection of textiles, which were comprised in 73 accessions. Of woods and of miscellaneous animal and vegetable products, however, there were but few accessions, as, owing to the press of work in other directions, no special effort could be put forth in regard to these subjects.

An important feature secured for the cotton exhibit was a ten-saw Eagle cotton gin, with feeder and condenser, presented by the Continental Gin Co., of Birmingham, Ala., which has been installed in a manner to permit of its being operated and forms the beginning of a series to illustrate the converting of raw cotton into yarn and cloth. The Amoskeag Manufacturing Co., of Manchester, N. H., cooperated on a very generous scale by assembling extensive series of specimens and appliances to demonstrate the manufacture and use of several lines of cotton and wool fabrics. One of these shows the preparation and use of blue chambray, a plain cotton fabric, and includes sections of a number of machines employed in drawing and spinning cotton, a complete Lowell loom with warp and harness in place, samples of cotton fabrics as woven and after finishing, and ready-to-wear garments illustrating the purposes to which the fabrics may be put. Another line of specimens, comprising denim, ticking, shirtings and gingham, represents the textiles as they come from the loom and after bleaching, and finally made up into finished articles of apparel. The outing flannels in plain colors and yarn-dyed striped patterns are interesting for comparison with the printed cotton flannels received from the Pacific Mills. From the same company were also received a large number of examples to illustrate each step in the manufacture of worsted goods from the raw wool to the finished product, and a supplemental series showing the production of grey worsted suiting by the vigoreaux process. A beautiful United States flag, measuring 7 by 14 feet, of Panama cloth, is a part of the worsted series. A collection contributed by the Worsted Woolen Mill Co., of Worcester, Mass., represents the manufacture of carded woolen fabrics, which comparatively simple process is in striking contrast with the elaborate series of steps necessary in the production of worsteds.

Of two American firms interested in the making of lightweight wash fabrics, especially for men's wear, one, the Goodall Worsted Co., of Sanford, Me., furnished 30 samples of Palm Beach cloth, a fabric woven with a cotton warp and mohair filling; and the other,

the Oscar Hoffman Corporation, of New York, a specimen of silk zephyr suiting made from tussah silk.

In addition to the standard cotton fabrics above referred to, the already extensive collection of cotton dress goods novelties was augmented by many beautiful and seasonable examples contributed by firms in New York and New England. Geo. B. Duren & Sons, of New York, supplied embroidered voiles and dotted muslins; William Anderson & Co., of New York, zephyr ginghams, percales and white goods; the Huron Textile Co., of New York, silk stripe cotton voiles; and the Bates Manufacturing Co., of Lewiston, Me., novelty crêpes in striped and plaid effects. Printed cotton goods from the Merrimack Manufacturing Co., of Lowell, Mass., and the Pacific Mills, of Lawrence, Mass., added new patterns and fabrics to the extensive series of printed and piece-dyed cotton dress goods previously furnished by the latter.

From Marshall Field & Co., of Chicago, Ill., were received printed cotton draperies designed for the fall trade of 1915, besides a number of photographs and half-tone illustrations showing the principal steps in the process of engraving copper rolls for printing such fabrics. The Orinoka Mills, of Philadelphia, Pa., presented a number of beautiful sunfast drapery and upholstery fabrics, and specimens of chenille yarns; while other cotton draperies were the gift of Geo. B. Duren & Sons. Mr. John W. Stephenson, editor of the "Upholsterer," New York City, supplied a collection of small samples of the upholstery fabrics described and figured in his periodical.

Exhibits sufficient in extent to fill several cases, which have been arranged to elucidate the manufacture of the principal kinds of pile fabrics made in the United States, were contributed by the House of Salt's, Inc., and Sidney Blumenthal & Co., Inc., of New York; the Contrexville Manufacturing Co., of Manville, R. I.; the Hind and Harrison Plush Co., of Clark Mills, N. Y.; and the Massachusetts Mohair Plush Co., of Lowell, Mass. Besides fabrics for dress and decorative uses, these collections include many beautiful examples of artificial furs, fabrics finished to resemble seal, Persian lamb, ponyskin, ermine, perwitzky, etc., and employed for coats, muffs and trimmings.

Many specimens illustrating the life cycle of the common mulberry silkworm, purchased from Mr. T. A. Keleher, of Washington, add to the interest and educational value of the silk section. The collection demonstrating the important steps in the throwing of raw silk was freshened up by gifts from John N. Stearns & Co., of New York, and the Klots Throwing Co., of Fredericksburg, Va., the former, which made the original contribution over 31 years ago, having supplied 12 samples of standard dress silks for comparison. Beautiful

brocaded dress silks for the fall season of 1915, from the Duplan Silk Co., of New York, include wonderful examples of cross-dyeing in brilliant colors, fabrics woven with a silk warp and artificial silk filling.

New printed satins, pongees and tussah silks were added to their already extensive collection by Cheney Brothers, of South Manchester, Conn.; and Jansen & Pretzfeld, of New York, presented samples of trimming silks, including a remarkable example of warp-printed taffeta. New taffeta dress silks in Mexican and Indian designs were received from M. C. Migel & Co., of New York. Satins, crêpes and chiffons, decorated by spray printing in a manner similar to the fine work produced in Lyons, France, were contributed by T. H. McCool & Co., of New York, in cooperation with the Decorus Manufacturing Co., of the same city, from which latter firm, by whom the decorative work was done by means of the airograph or air brush, the first machine of this kind imported into the United States was obtained as a gift. A fine example of Irish hand-woven linen damask tablecloth was furnished by Walpole Brothers, Inc., of New York.

To the Quaker Lace Co., of Philadelphia, Pa., the Museum is indebted for a most instructive series of specimens and photographs showing the manufacture of machine-made laces and lace curtains, including the enlarged colored drafts of the designs on ruled paper. An interesting collection of modern European handmade laces, embracing specimens of the picturesque lace headgear worn by the women of Holland and of southeastern France, was received as a loan from Mrs. M. E. Boyd, of South Hanover, Mass.

Two fine examples of Chinese textiles were deposited. One of these, from Miss Sarah McC. Trescot, of Pendleton, S. C., is a magnificent piece of gold thread embroidery on scarlet silk, depicting the Empress and her two attendant fan bearers. It was purchased in the Imperial Palace at Peking by her father, William Henry Trescot, one of three commissioners from the United States on a diplomatic mission to the Chinese Government in 1880. The other, from Mrs. Olive B. Myers, of Thurmont, Md., is a brocaded robe made for Emperor Hein Fung and taken from the Yuen-Ming-Yuen, Peking, by order of the English and French allies, when that palace was destroyed by fire in 1860. The collection of elaborately woven and embroidered textiles was further enriched by several beautiful Cashmere shawls, the gift of Mr. Gracie K. Richards, of Washington.

The division was fortunate in obtaining excellent examples of the work done by one of the most famous early American weavers, consisting of two double-woven blue and white coverlets, made from homespun threads of cotton and wool in 1850 and 1858, respectively, by Sarah La Tourette, of Fountain County, Ind. A white cotton

bedspread, woven in Dinwiddie County, Va., in 1844, by Julia A. Poole from cotton grown, picked, carded and spun by herself, was presented by her daughter, Mrs. Fannie Hamilton, of Petersburg, Va.

The Hardwick and Magee Co., of Philadelphia, contributed a series of specimens demonstrating steps in the manufacture of Wilton rugs; and The Firth Carpet Co., of Firthcliffe, N. Y., samples of seamless Scotch chenille, Axminster and tapestry-Brussels rugs. To The Standard Oil Cloth Co., Inc., of New York, acknowledgments are due for a very complete exhibition of the materials and processes employed in the manufacture of oilcloth and for a large number of specimens demonstrating its numerous uses. This collection includes sketches and photographs illustrating the improved modern methods of production in comparison with the hand methods formerly employed.

The Department of Agriculture deposited a series of 80 samples of raw cotton, No. 22 warp yarn, picker waste and card waste, showing the relative amount of waste thrown out, under normal spinning mill conditions, from each of the five standard full grades of raw upland cotton. This material will be especially valuable as a graphic demonstration of the foreign matter found in commercial raw cotton, and when installed with the set of official cotton grades now in the Museum will serve to point out one of the principal factors in determining the grade.

A large number of rolls or coils exhibiting the cutting and winding of many different kinds of textile fabrics adapted for special purposes were presented by the Cameron Machine Co., of Brooklyn, N. Y. They include such materials as surgeon's plaster, bandages, absorbent cotton, insulating fabric for electric conduits, emery cloth, bias bindings for shoe manufacture, gummed cloth, paper for box making, etc.

The already commanding position in the popular interest which the National Museum has attained by reason of its possession of so many of the very first beginnings of important inventions is continually being strengthened by the accession of original models and the earliest machines used in important industries. A group of such appliances, employed in the manufacture of embroideries, was presented last year by The Kursheedt Manufacturing Co., of New York, through the public-spiritedness of its secretary and general manager, Mr. Richard Bloch, and it should be a source of pride to Americans that these valuable improvements were conceived and perfected in this country. The gift comprises the first working model of the Groebli automat, which was the first embroidery Jacquard used in America for operating the Schiffli embroidering machine; the earliest model of each of three successive improvements thereon; and likewise the first punching machine used for perforating the paper

pattern roll used in operating the three later models. All of these were devised by J. A. Groebli, son of Isaac Groebli, the inventor of the Schiffli machine, and were developed and built in the shops of The Kursheedt Manufacturing Co. By means of the automat the movements of the fabric frame of the embroidering machine are controlled mechanically, thereby dispensing with the pantograph operator and insuring greater speed, accuracy and uniformity in the work.

Of accessions other than textiles received during the year, the more important were a set of specimens illustrating the manufacture of featherbone from turkey feathers, contributed by The Warren Featherbone Co., of Three Oaks, Mich., to replace material supplied by the same firm in 1884; a collection of ostrich plumes from the Cawston Ostrich Farm, of South Pasadena, Cal., forming a valuable addition to the exhibit of feathers and feather work and embracing every grade of raw, bleached and dyed feathers, as well as a beautiful Knight Templar's plume; two beautifully carved mother-of-pearl shells, on which are depicted the Last Supper and the Crucifixion, lent by the Misses Long, of Washington; and specimens of oak and spruce phonograph horns in intermediate and finished stages, presented by Sheip & Vandegrift, of Philadelphia, Pa.

The collection of identified woods from Panama and the Canal Zone was increased by 18 specimens obtained for the Museum by Mr. H. Pittier, of Washington.

The cotton exhibits in the south hall were entirely rearranged to permit of the addition of new material and to provide a more balanced installation of the principal classes of these goods. The Lowell cotton loom, in a case specially provided for it, was installed on the west side of the hall near the drawing and spinning frames contained in the western wall case. In the corresponding but larger wall case on the east side of the hall were added 12 large pieces of textile machinery besides a number of spinning wheels and reels and numerous small models. One section of the case has been utilized for the hand-operated textile machines and appliances belonging to the colonial period of the country, while the back of the case has been hung with hand-woven coverlets and curtains. In the same hall the commercial wool fleeces have been very compactly arranged by constructing within the single case employed tiers of pigeon holes, 12 inches square and 40 in number.

Two special series of fabrics have been added to the installation in the east south range, one representing fabrics having a nap or pile, formed by means of a special set of threads and including velvets, plushes, corduroys and fur fabrics; the other composed of fabrics presenting a crêpe-like, wrinkled or roughened surface, produced either in the weaving or finishing, including crêpes, ratines, seer-

suckers, plissés, etc. The removal toward the latter part of the year of the whale skeletons which had remained suspended there since the transfer of the zoological collections has greatly improved the appearance of this range, but the necessity for certain other changes delayed the systematic placing of the floor cases, though the arrangements in the wall cases on the north and west sides of the range, with the exception of two panels, was completed.

Owing to the shortage of appropriate cases it was not possible to immediately install all of the material received for exhibition during the year, but an attempt was made to promptly display all specimens of fabrics sent to the Museum previous to their entry into the retail trade, or such as are likely to be of interest to visitors for a very limited period. Group labels for the exhibition cases have been added as rapidly as the curator could prepare copy, and this was nearly finished for the south hall.

All new specimens have been catalogued practically as soon as received, though the catalogue is as yet confined to the one set of original cards. The arrangement of the reference collection of named fabrics, mounted on letter-size cards and filed in regular filing cases, is progressing steadily. The acquisition by the division of the wide space back of the east wall case in the south hall has furnished additional and much needed room for both permanent and temporary storage, and the systematic arrangement of the material there assigned is well under way. All materials subject to attack by insect pests were successfully protected from injury, but it is important to note the timely discovery of *Dermestes* on the silkworm cocoons, and of the cigarette beetle (*Lasioderma serricornis*) on the specimens of vegetable ivory.

A large part of the important accessions of the year resulted from three visits by the curator of the division made for the purpose of securing material as well as for obtaining information for use in labeling, cataloguing and installing specimens. One of these was to Paterson, N. J., another to Willimantic, Conn., and the third to New York City. An investigation of the history of several automatic attachments for embroidering machines, conducted near the close of the year, rendered necessary a trip to New York City and Camden, N. J., to observe the machines in operation and to interview the men concerned in their invention and building. Requests for information regarding silk violin strings led to a microscopic study of the construction and mechanical analyses of such articles and the undertaking of their manufacture by one of the Museum correspondents.

Continued progress has been made in the compilation of terms and definitions for the textile glossary begun in 1913, which has already proved very useful in cataloguing new materials as received.

Further studies on the botany of the cottons and related plants by the curator, Mr. F. L. Lewton, resulted in the publication of a technical paper on the so-called Australian cottons, which is cited in the bibliography.

A special exhibition of living silkworms, feeding on mulberry leaves and forming their cocoons, was held in one of the large halls, having for its object the instruction of the public and the preparation of a new exhibit for the silk section. It was continued during a month and attracted much attention. Many groups of children from the public and private schools of the city were given talks on the textile collections. Several classes from the National School of Domestic Arts and Science in Washington also came to the Museum at regular intervals during the winter and spring months for lectures and demonstrations on the principles of spinning and weaving by the curator, who likewise arranged a lecture demonstration for a class of 20 young ladies from the National Park Seminary at Forest Glen, Md.

The plans suggested for the building up of the textile collections, as outlined in the last two reports, are being carried out in the main. Among matters to which early attention is proposed are the following: The illustration of the historical and industrial development of spinning, winding and weaving by means of models; the installation of certain important and fundamental devices used in the textile industry, such as the Jacquard machine, silk reeling apparatus, small embroidering machine, circular knitting machine, bobbin winding machine, warp drawing and tying machine; means for operating, in public view, the cotton gin, loom, silk reel, spinning frame and other important textile appliances; the processes of manufacture, dyeing and use of artificial silk; the assembling of a comprehensive exhibit of modern laces, including the best examples of machine-made laces with corresponding types of handwork, and the increase of the collection of colonial fabrics and textile appliances; photographic enlargements of photo-micrographs of the standard weaves and of pictures bearing on the collections, such as cotton picking, sheep grazing and shearing, ostriches on range, feather plucking, etc. It is also designed, as duplicates accumulate, to begin the preparation of sets of specimens illustrating textile raw material, spinning, weaving and standard fabrics for the use of technical schools, whereby the teaching of industrial subjects may be generally aided in accordance with the practice so long followed in connection with the natural history collections.

With respect to miscellaneous animal and vegetable products, it is intended to give special consideration in the near future to the illustration on a comprehensive scale of leather working and shoemaking, and of commercial furs and skins, the latter combining a comparison

of genuine furs with the common cheap kinds; and the development and enlargement of the collection of vegetable products along lines to represent important industrial processes, such as flour milling, starch and glucose manufacture, soap and candle making, painting and varnish making, hard rubber, elastic goods and tires, sugar refining, etc.

It was not until near the close of the year that an opportunity was presented for organized activities in the matter of commercial woods, their utilization and the means to that end. The subject was first recognized in the Museum classification about 30 years ago, under the designation of forestry, but no permanent results followed though small accessions were received from time to time. The greater part of these acquisitions unfortunately proved valueless since they were not collected in accordance with any plan, and most of the specimens were without labels. There have been frequent calls upon the Museum in recent years for the formation of such a collection, which shall be thoroughly comprehensive and practical, and it was on this basis that a section of wood technology was established in June, with an assistant curator directly in charge, under the supervision of the curator of textiles.

Mineral technology.—The activities of this division, the objects of which were discussed in the last report, have extended through only two years, but the results already obtained have entirely exceeded expectations. The main purpose of the division being educational, its collections will be chiefly on exhibition, and to this purpose have been allotted four halls in the southwestern part of the older Museum building. While this area is recognized as inadequate for a full and proper exposition of the industries to be represented, the plans for the immediate future contemplate its division in due proportion between them, and the use of all of it. It is not designed to duplicate in any respect the collections of natural mineral resources, which are already provided for in the department of geology, but to illustrate the industries in which the more important of these mineral products figure. Minerals as such will, therefore, be entirely subordinated to the demonstration of their extraction from the ground, of the processes leading to their utilization, and of the finished products.

Such a collection cannot be assembled hastily, since in bulk it will consist mainly of models which must be constructed, though greatly reduced in scale, with a faithful attention to details, whether it be a mine or a manufacturing establishment that is represented. The organization of a division with these objects in view has not only met with favorable commendation from the mining interests, but has equally received their aid and cooperation to such an extent that the success of the project is only a question of the time required for

making the models and gathering the products. The character of exhibit for each of the mineral classes was worked out in advance, so far as that was possible, and the position and amount of space available for each was at least approximately determined. The definite plans have followed in such order as the circumstances warranted, and have been given consideration in conjunction with the leading mining and manufacturing companies on whom dependence must be had for their realization. Several companies have already contributed models, while others have furnished designs and descriptions as a basis for their construction in the workshop of the division, and all who have so far lent their assistance have generously supplied other materials needed for the exhibits. It is not to be understood that the work has been advanced to the extent of giving even an appreciable appearance of completeness to any of the halls, except that devoted to the subject of coal, but very much was accomplished during last year, and the plans that have been formulated will henceforward be more in evidence through more frequent additions to the collections in the immediate and near future.

Any original investigations that might be instituted have been deferred, pending the accomplishment of the main purpose of the division, but a careful study of each industry as to its historic and current phases has preceded the planning of each exhibit, with the twofold objective of making the exhibit adequately representative and of incorporating in a series of bulletins the features brought out in the series. The plans for the development of the division are, in one direction, embodied in the exhibits already installed, and broadly considered involve for each industry: First, a representation of the industry in the form of models, reproducing in miniature the original occurrence of the mineral substance treated, and the general procedure followed in extracting it from the earth and preparing it for its various uses; second, a systematic series of specimens exemplifying the natural occurrence, the various stages passed through in the course of the processes shown in the model reproduction, and the range of industrial products, together with their adaptabilities; and third, the issuance of brief educational bulletins with illustrations taken from the models and text from the labels, for the use of schools and for the purpose of extending the advantages of the exhibit to the great body of the public unable to visit the collections.

Public opinion of mining and metallurgical engineering, which is not of the best, is largely influenced by the shortcomings of an individual and fails to realize to what extent general prosperity and comfort is dependent upon the results of these professions. It does not appreciate the enormity of the obstacles overcome in the paths, for instance, between the coal seam and the household cellar, nor whether it is paying enormously high or exorbitantly little for each

ton of coal that it buys. The Museum may therefore make a most important contribution by enabling the public to appreciate its indebtedness to the genius of great mining and metallurgical enterprise.

The total number of accessions for the year amounted to 53. The more important of these, with some reference to the progress made in connection with other noteworthy exhibits soon to be completed, are as follows:

Two exhibits relating to salt have been prepared but only one of these has so far reached the Museum. This illustrates the occurrence, mining and treatment of rock salt for the manufacture of sodium compounds, as followed by the Solvay Process Co., of Syracuse, N. Y. It consists primarily of a model made from drawings furnished by the company, covering a narrow strip of country lying between the Tully Lakes region, where the salt wells are located, and Solvay, a suburb of Syracuse. In plan the model shows one of the Tully Lakes which supplies water to the salt wells, a few of the brine wells, a limestone quarry, the product from which is used in the soda works, an outlying portion of Syracuse, and the soda works at Solvay. A very realistic effect, appealing to the technical as well as the nontechnical mind, is produced by using actual water running into the lake, the overflow forming a creek extending the entire length of the model. In section the model represents the position of strata underlying that section of country, including a salt bed which is being mined at Tully. Eight photographic enlargements, depicting scenes along the route, are hung in proper relative positions above the model, while on the floor in front of the model samples of the raw ingredients employed in the process and the finished products obtained are displayed in their correct order. These were a gift from the Solvay Process Co. The second of the salt exhibits referred to is a model demonstration of the occurrence, extraction and refining of table salt, constructed in collaboration with the Worcester Salt Co., of New York City. It is at present on exhibition at the Panama-Pacific Exposition, at the close of which, through the courtesy of the company, it will be transferred to the Museum.

An exposition of the processes of glass making has for some time been in course of development in cooperation with the Macbeth-Evans Glass Co., of Pittsburgh, Pa., following plans evolved in collaboration with Mr. George A. Macbeth, president of the company. The exhibit aims to reproduce, on a scale of about 1/24 natural size, the most modern glass works furnace equipment with a complement of workers engaged in the performance of the various typical attendant operations, the whole technically complete and accurate in all details, but so arranged as to be readily comprehensible. It will also show the ingredients, the parts they play, and the manner in which they combine as a whole to form glass. Models of

the two standard types of furnace in current use were contributed in 1914. The additions during last year comprised models of a glass annealing furnace, a glass-melting clay pot, and the various tools used by glass blowers, together with many specimens designed to illustrate the art of glass making, including segments of the glass rings used in the construction of lighthouse lenses, a series of colored railroad lantern globes and bull's eyes for both hand lanterns and signals, and many styles of electric and gas lamp shades employed in both direct and indirect lighting effects. This entire exhibit has been made expressly for and is a generous donation to the Museum by the Macbeth-Evans Co., through the friendly offices of its president. There is but little more required to render it complete.

As the central theme of an exhibit designed to acquaint the public with a widely used but as yet little known building material, a model has been constructed by the Museum, on a scale of 1 in 48, of the gypsum plant of the United States Gypsum Co., of Chicago, Ill., located at Oakfield, N. Y. It is based upon drawings from the company, and, while showing the underground conditions in the mine and the methods of ore extraction, its most significant feature is the clear comprehension it imparts of the manufacturing process employed by one of the largest, if not the largest, gypsum manufacturing companies in the country. All machines and appliances of importance are represented in their relative positions in the buildings of the plant, so that the visitor, by walking around the model, may obtain a full understanding of the methods.

A series of specimens of crude mica and its products, with illustrations of the manufacture of mica plate, a process by which mica that was formerly thrown away as waste can be utilized, was contributed by the Keene Mica Products Co., of Keene, N. H. This accession, in connection with that received the previous year from the Westinghouse Electric Manufacturing Co., constitutes an industrial exhibit summarizing the occurrence, technology and uses of mica.

To the collection designed to show the occurrence, derivation and adaptability of the known abrading materials, both natural and artificial, there were 5 accessions, all gifts, as follows: From the Pike Manufacturing Co., of Pike, N. H., a series of photographs and specimens illustrating the mining and treatment of the well known Arkansas novaculite sandstone used for whetstones, and of the New England mica schists employed for scythestones, etc. From the Carborundum Co., of Niagara Falls, N. Y., a model of a carborundum electric furnace, together with a set of specimens, showing the process of manufacturing the artificial abrasives carborundum and aloxite, and their industrial uses. From the Norton Co., of Worcester, Mass., photographs and specimens representing the manu-

facture and uses of the artificial abrasives crystolon and alundum. From the Pittsburgh Crushed Steel Co., a series of crushed steel products employed for abrading purposes. From the American Tripoli Co., of Seneca, Mo., examples of tripoli and tripoli products.

A very remarkable specimen of asbestos rock, weighing 550 pounds and showing the typical vein occurrence of asbestos fibre, forms part of a series which includes the several grades of carded asbestos fibre, presented by the Asbestos Corporation of Canada, Ltd., Montreal, Canada. Two other donations in this line consist of asbestos products from the Sall Mountain Co., of Chicago, Ill.; and of the same, with illustrations of the steps in the process of their manufacture, from the Asbestos Protected Metal Co., of Beaver Falls, Pa.

Among the additions to the coal series was a very complete set of photographs representing actual scenes in and around the by-product coke plant of the United States Steel Corporation's works at Gary, Ind., drawings of which had been used for a model of such a plant installed the previous year. A further contribution consisted of a series of specimens of the many by-products derived in coking 1/10 of a ton of coal, showing the exact amount of each obtained, which was presented by the Semet-Solvay Co., of Syracuse, N. Y. These several exhibits, which are grouped together, impart to the Museum visitor, in a very clear and concise manner, a knowledge of one of the most important industries of the world.

The division is attempting an industrial classification of the coals of the world, and has thus far met with excellent results through cooperation with the many coal mining companies in the United States whose products are of distinct types. Each company so far approached has presented a sample block of its coal, together with a description of the same, giving its analysis, uses and markets, which is used as the basis of a descriptive label containing information valuable to the public.

A very complete series representing the manufacture of graphite and its industrial products, the gift of the International-Acheson Graphite Co., of Niagara Falls, N. Y., by reason of its compact arrangement and comprehensiveness, has been selected as the standard for one of the four types of exhibition methods to be followed by the division. Another exhibit of graphite, designed to demonstrate the native occurrence of this mineral, its mining, treatment, and uses, including the process of manufacturing lead pencils, was nearly ready for installation at the close of the year. Its preparation was undertaken in cooperation with the Joseph Dixon Crucible Co., of Jersey City, under the direction of Mr. Malcolm McNaughton.

A systematic exhibit, which will summarize current knowledge regarding the use of asphalt, at present under construction as a gift by the Barber Asphalt Paving Co., of Philadelphia, Pa., will repro-

duce in models the occurrence and technology of asphalt, including a very remarkable model of the famous Pitch Lake on the Island of Trinidad. Another exhibit, in course of preparation by the National Lead Co., of New York City, and soon to be completed, will represent by means of models the occurrence and mining of lead ore, as well as the processes involved in the smelting of this ore to obtain pig lead, and in the manufacture of white lead, etc., from pig lead. Models illustrating the occurrence, mining and preparation of zinc ore and the manufacture of metallurgical products typical of the industry, developing also the historical features together with the part played by zinc in domestic economy, are being constructed under the supervision of Mr. George C. Stone, as a donation from the New Jersey Zinc Co.

In cooperation with the United States Steel Corporation, the division has under consideration plans for an exhibition covering the occurrence, mining and milling of iron ore and the metallurgical practices employed in the manufacture of iron and steel, which it is expected will surpass any in the world for comprehensiveness and details. The systematic series, in course of development to illustrate in model form the general methods of ore extraction, is to receive from the Geological Survey at the close of the Panama-Pacific Exposition two excellent models showing both deep and shallow placer mining methods as practiced in Alaska. Two model exhibits under construction at the close of the year, from designs by the division, will illustrate, respectively, the occurrence, extraction and refining of oil and gas, and an occurrence of natural sulphur and the method of extracting it, as followed by two companies in this country. Another exhibit, planned for early construction, will demonstrate an occurrence of limestone, its quarrying and treatment in the manufacture of Portland cement.

DISTRIBUTION AND EXCHANGE OF SPECIMENS.

The distribution of material to schools and colleges for teaching purposes aggregated 14,843 duplicate specimens, accurately classified and labeled, of which 10,774 were in series regularly prepared for this purpose, as follows, namely: 64 sets of minerals and ores of 83 to 86 specimens each; 9 sets of rocks, minerals and ores of 72 to 74 specimens each; 21 sets of fossil invertebrates of 42 to 54 specimens each; and 21 sets of mollusks of 174 specimens each. The remaining 4,069 specimens were contained in 48 sets prepared to meet special requirements and represented the subjects of ethnology and archeology, mammals, birds, fishes, insects, marine invertebrates, rocks, ores, minerals and fossils. In making exchanges 7,927 duplicate specimens were used, of which 1,286 were anthropological, 907 zoological, 5,008 botanical and 726 geological, including fossils.

One hundred and eighty-eight lots of specimens were sent for study to collaborators of the Museum and to specialists engaged in research work for other institutions. They comprised a total of 10,269 specimens, of which 50 were mammals, 636 birds, 136 reptiles and batrachians, 37 fishes, 2,663 insects, 1,401 marine invertebrates, 4,070 plants, 118 minerals, rocks and ores, and 1,158 fossils. This material was all to be returned to the Museum, and some had been received before the close of the year.

NATIONAL GALLERY OF ART.

The past year was a prosperous one for the Gallery of Art in several ways. Mr. Charles L. Freer, of Detroit, Mich., made a notable addition to his already wonderful collection, consisting chiefly of oriental paintings, pottery, jade, bronzes, etc., with a few works by American artists. Outside of this contribution and one by Mr. William T. Evans, of New York, however, but few permanent additions were received, nor can much be expected in this direction until better accommodations are provided for the Gallery, which is now mainly restricted within improvised screen enclosures in a hall designed and required for another purpose. There is no doubt, however, that the interest of the public has been generally awakened to the importance of this branch of the establishment, specifically authorized and directed in the fundamental act of 1846, and, though actually organized only nine years ago, it has already become an acknowledged factor in matters of art in this country. Its right to a more generous support from the Government seems, therefore, undeniable, and, with proper equipment, it may expect liberal favors from those in a position to assist; but, even as it is, the Gallery is doing excellent work, as is recognized the world over, and its progress, based on solid achievement, has gone too far to be checked.

There were an exceptional number of loans during the year, several of large size, and one composing a special exhibition by a national association. The paintings, of which the loans mainly consisted, were all worthy of representation in the national collection, and included many by old masters and by eminent painters of later periods. To the generous owners of these and of the sculptures thus temporarily placed on exhibition the public is greatly indebted, while the Gallery is much flattered by the faith shown in its objects and activities.

The Advisory Committee on the Gallery retains the same membership as for several years past, consisting of Mr. C. Y. Turner, of Baltimore and Washington, chairman; Mr. Frederick Crowninshield, Mr. Edwin H. Blashfield and Mr. Herbert Adams, all of New York City; and Mr. William H. Holmes, secretary. Mr. Holmes,

who is the head curator of anthropology in the National Museum, also serves as curator of the Gallery. The enclosure constructed for the Gallery some years ago is adapted only for paintings, offering no space for works of sculpture, of which the few pieces now in the possession of the Gallery are exhibited in the north entrance lobby and the rotunda. Arrangements for the special exhibition and for the changes in and additions to the loan collections have entailed a considerable amount of planning and labor, but with excellent results, and at the close of the year the Gallery presented a greater assemblage of attractions and a better appearance than at any previous time.

The additions by Mr. Charles L. Freer to his splendid gift consisted of 110 objects assembled between February 24, 1914, and January 11, 1915, title to which was given on the latter date. Of American works there were 8, namely, 1 oil painting by Dwight W. Tryon, 1 oil painting and 2 silver points by Thomas W. Dewing, and 3 drawings and sketches and 1 lithograph by James McNeill Whistler. The oriental part, aggregating 102 examples, comprised 50 paintings, of which 8 panels, 14 kakemono, 10 makimono and an album of 11 paintings are Chinese, and 1 screen, 1 panel and 5 kakemono are Japanese; 14 pieces of pottery, of which 12 are Chinese, and 1 each Rakka and Raghes; and 24 pieces of jade, 5 sculptures in stone, and 9 bronzes, all Chinese. The original donation by Mr. Freer, numbering approximately 2,326 objects, was conveyed to the Smithsonian Institution by a deed of gift dated May 5, 1906, in which it was provided that the collection should remain in the possession of the donor during his life and that he might make such appropriate additions to it as he should select. Such additions have, in fact, been made on a most extensive scale, and have from time to time been formally transferred by supplemental deeds of gift, which now number 6 in all. So liberal indeed has been this benefactor that he has more than doubled the size of his contribution, which now contains approximately 4,811 pieces, of which 991 are American and 3,820 oriental. A summary of the collection as at present constituted will be found on a subsequent page.

The other permanent acquisitions, all donations, numbered 12, of which 7 are oil paintings, 1 is a marble statue, 2 are busts in bronze and 2 plaster casts. The principal contributor was Mr. William T. Evans, whose interest in the welfare of the Gallery has shown no abatement since his original gift in 1907. The collection of the works of contemporary American artists, which he has augmented from year to year, now comprises 151 paintings and 1 bronze by 107 persons, besides 115 proofs of wood engravings by 16 of the most prominent American workers in this line. His donations of last

year, 5 in number, and with one exception consisting of oil paintings, were as follows:

H. Hobart Nichols. Moonrise at Ogunquit.

Henry Oliver Walker. Portrait of Mrs. William T. Evans and Son.

Wyatt Eaton (1849-1896). Portrait of William T. Evans.

J. Alden Weir. Portrait of Wyatt Eaton.

J. Scott Hartley (1845-1912). Bronze portrait bust, inscribed "William Thomas Evans MCMIV."

The following were the other gifts:

Samuel Isham (1855-1914). Wooded landscape. Oil painting. Received from the estate of the artist in accordance with his wishes, through Mrs. Julia Isham Taylor, executrix.

Elizabeth Nourse. Fisher Girl of Picardy. Oil painting. Presented by Mrs. Elizabeth C. Pilling, of Washington, in memory of her husband, the late John Walter Pilling.

Alfredo Helsby. Full Moon, a landscape at Limache, Chile. Oil painting. Presented by the Embassy of Chile at Washington, through Señor Don Eduardo Suarez-Mujica, Ambassador.

Paul W. Bartlett. Original plaster model of the bronze equestrian statue of Lafayette erected in the Square of the Louvre, Paris, France, in 1900, as a testimonial from the school children of the United States. Gift of the artist.

Henry Hudson Kitson. Bronze bust of the Right Honorable, the Viscount Bryce, O. M., Ambassador of Great Britain to the United States, 1907-1913. Gift of the artist, by whom it was modeled expressly for the Gallery.

Vinnie Ream Hoxie (1847-1914). Full-length statue of the goddess Sappho, in white marble, typifying the Muse of Poetry, modeled between 1865 and 1870. Gift of Brig. Gen. Richard L. Hoxie, U. S. Army (retired).

William Rimmer (1821-1879). Original cast in plaster of the statue of The Falling Gladiator. Gift of Miss Caroline Hunt Rimmer, of Lexington, Mass., daughter of the sculptor.

The loans to the Gallery, received from 14 sources, aggregated 121 paintings, 2 bronzes and 2 plaster casts, a total of 125 pieces; and as the number withdrawn amounted to only 67 pieces, there was a net increase in the loan collections at the close of the year of 58 examples. As a complete list of the loans exhibited during the year is given further on, the year's temporary acquisitions will be only briefly referred to in this connection.

The special loan of which mention has already been made was an exhibition of 27 portraits, representing 23 artists, from the National Association of Portrait Painters, which continued from March 6 to April 7, 1915, and of which a special view, by invitation, was held

on the evening of the opening day. Besides the Gallery catalogue an elaborately illustrated catalogue was issued by the association. This was the second exhibition here by this society, the previous one having been held the preceding year.

A collection of paintings by leading contemporary artists of the United States and Europe, selected in June, 1914, from the international exhibition which had been held at the Carnegie Institute, Pittsburgh, Pa., was shown during the year under the auspices of The American Federation of Arts, at museums in ten different cities in this country. The circuit closed early in June, 1915, and, while the American paintings were immediately returned to their owners, those from abroad, in view of the peril of ocean transportation were, with the consent of the artists, deposited in the National Gallery for a period of six months. These foreign paintings, 23 in number, add most interestingly to the loan series, especially as a number of the painters have never been represented in Washington before.

Mr. Ralph Cross Johnson, of Washington, added 13 important paintings by foreign artists to his notable collection which has been in the Gallery for several years and which is now increased to 24 canvases. Mr. W. A. Slater, of Washington, who reclaimed his former loan of 19 valuable paintings on November 7, 1914, returned it to the Gallery in April and May, 1915, together with 4 additional examples. From Mrs. Edward Kemeys, of Washington, were received 21 paintings, comprising 6 portraits, 5 landscapes and 10 representations of animal subjects, besides 2 bronzes and 2 plaster casts. The other loans, consisting entirely of paintings, numbered 4 from the Rev. F. Ward Denys, of Washington; 3 from Mrs. George W. Vanderbilt, of Washington; and 1 each from Mr. John S. Beck; Mr. W. B. P. Closson, of Newton, Mass.; Mr. W. A. Dickey, of Seattle, Wash., and others; Mrs. Mary F. C. Goldsborough and Mrs. C. V. Purdy, of Washington; Mr. George Treat, of Valdez, Alaska; and a friend of the Gallery, whose name was not disclosed.

Three of the paintings of the exhibition of the works of William F. Halsall, held the previous year, remained in the Gallery until in February, 1915, when they were removed. These consisted of "Our Glory—Battleship Oregon," "The Ocean Rover" and "Like a Sheeted Ghost." The first mentioned was sent to the Panama-Pacific International Exposition.

The beautiful bronze double doors executed by the late Louis Amateis, of Washington, for the west entrance of the Capitol, were, in 1914, pending provision by Congress for their placing, temporarily deposited in the Museum, where they were installed early in the year, with appropriate base and molding, in the north vestibule of the new building opposite the bronze tablet commemorative of the participation of Kit Carson and Gen. Edward F. Beale in an import-

ant episode in the War with Mexico. Following is a brief description of these doors, which are elaborately covered with reliefs, both allegorical and of men prominent in American history:

These doors were designed and modeled by Prof. Louis Amateis, of Washington, and were cast in New York by the Roman Bronze Company and John Williams, Inc. The work consists of a transom and two doors with an ornamental frame, all of bronze. It is 7 feet 8½ inches wide, and 13 feet 10 inches high. The doors themselves are 7 feet 8½ inches wide, and 9 feet 6 inches high. In the transom panel the sculptor has introduced a composition entitled "Apotheosis of America." It represents America seated in a chariot drawn by lions—typical of strength—led by a child, signifying the superiority of the intellectual over brute force. At the sides of the chariot are figures representing Education, Architecture, Literature, Painting, Music, Sculpture, Mining, Commerce, and Industry. At the right of the transom panel stands Thomas Jefferson, third President of the United States, and at the left Benjamin Franklin, inventor and statesman. The medallions at the four corners of the panel represent George Peabody, founder of educational institutions, Ralph Waldo Emerson, philosopher and thinker, Horace Mann, educator, and Johns Hopkins, philanthropist.

In the eight panels of the doors are scenes depicting Jurisprudence, Science, Fine Arts, Mining, Agriculture, Iron and Electricity, Engineering, and Naval Architecture and Commerce.

Jurisprudence is represented in the upper panel at the left by a composition showing a meeting of the Supreme Court of the United States, presided over by Chief Justice John Marshall. A bust of Washington is shown over the chair of the Chief Justice, and statuettes at the right and left represent James Madison and Daniel Webster. Above are medallions of Patrick Henry, Chief Justice Roger B. Taney, and Rufus Choate.

In the Science panel below is a group of the world's greatest scientific workers, from the Greek astronomer, Hipparchus, inventor of the planisphere, down to Charles Darwin. At the sides are figures of Oliver Wolcott Gibbs, chemist, and Joseph Henry, physicist. The medallions are of James D. Dana, geologist, Simon Newcomb, astronomer, Alexander Graham Bell, of the telephone, and Samuel F. B. Morse, of the telegraph.

On the third panel, the Fine Arts are represented by a group in which are Homer, Virgil, Dante, Shakespeare, Goethe, Hugo, Palestrina, Beethoven, and Rossini. Above them is a flying figure of Genius. The statuettes at the sides are of Edgar Allen Poe, writer, and William Thornton, architect of the original Capitol. The medallions represent Gilbert Stuart, painter, and H. K. Brown, sculptor.

Mining is represented by a scene in a mine. On one side of this panel stands James W. Marshall, discoverer of gold in California, and on the other, Alexander L. Holley, metallurgist. The medallions represent E. B. Case, Clarence King, geologist, and Abram S. Hewitt, statesman.

The top panel on the right side of the door shows a harvest scene, typical of Agriculture. At one side is Samuel G. Morton, ethnologist, and at the other James Wilson, agriculturist. The medallions represent J. P. Norton and Benjamin Bussey, agricultural chemists, and Justin S. Morrill, U. S. Senator.

The Iron and Electricity panel depicts a scene in which iron and electric workers are shown. Peter Cooper, philanthropist, stands at one side of this panel and H. A. Rowland, physicist, at the other. The medallions show

Matthias W. Baldwin, founder of locomotive works, and Thomas A. Edison, inventor.

In the engineering scene, workers are shown laying tracks for a railroad. In the background is a long iron bridge. James B. Eads, builder of the St. Louis bridge, stands at the left, and Thomas L. Casey, engineer, at the right. One medallion represents Washington A. Roebling, builder of the Brooklyn bridge, and another Stevens, builder of transcontinental railroads.

Naval Architecture and Commerce are represented by a figure typifying Architecture, showing to Commerce, Industry and Agriculture on a globe held by a youth, the places where they can dispose of their wares. A sailor is represented holding a flag surmounted by a liberty cap, significant of an open-door policy. At one side of this panel stands Robert Fulton, inventor of the steamboat, and on the other John Ericsson, inventor of the Monitor. The medallions are of Eli Whitney, inventor of the cotton gin, John C. Fremont, "the Pathfinder," Elias Howe, inventor of the sewing machine, Cyrus W. Field, layer of the first Atlantic cable, and John Lenthall, naval constructor.

A few paintings belonging to the Gallery were lent for exhibition elsewhere, as follows: "Plymouth Hills," by Mr. John W. Beatty, was shown at the Anglo-American Exposition in London from May to October, 1914. "Russian Tea," by Mr. Irving R. Wiles, was exhibited at Austin, San Antonio and Galveston, Tex., from February to April, 1915, in a loan exhibition assembled by The American Federation of Arts. Four canvases, at the requests of the artists, were sent to the Panama-Pacific Exposition at San Francisco in January, 1915. They consisted of "Plymouth Hills," by Mr. John W. Beatty; "A Good Story," by Miss Clara Taggart MacChesney; "Plenty," by Mr. Kenyon Cox; and "May Flowers," by Mrs. Louise Cox. All of the above belonged to the Evans collection.

Following is a list of the paintings and sculptures exhibited in the Gallery during last year. It includes both the permanent possessions of the Gallery and the loans.

LIST OF PAINTINGS AND OTHER OBJECTS IN THE NATIONAL GALLERY OF ART.¹

REQUEST OF HARRIET LANE JOHNSTON.²

Sir William Beechey (1753-1839).

Portrait of Miss Murray.

J. Henry Brown (1818—).

Miniature of President Buchanan.

Miniature of Harriet Lane Johnston. (Lent by Miss May S. Kennedy.)

¹This list is brought down to June 30, 1915. All titles are of paintings in oil unless otherwise stated.

²Received in 1906.

John Constable (1776-1837).

The Valley Farm.

Henry Dexter (1806-1876).

Marble bust of President Buchanan.

Jacob Eicholtz (1776-1842).

Portrait of President Buchanan, at about 40 years of age.

Sir John Watson Gordon (1798-1864).

Portrait of the Prince of Wales (King Edward VII) in 1862.

John Hoppner (1758-1810).

Portrait of Mrs. Abington.

Cornelis Janssens (Van Keulen) (1590-1664).

Portrait of Madam Tulp.

Sir Thomas Lawrence (1769-1830).

Portrait of Lady Essex as Juliet.

Bernardino Luini (1460-1535).

Madonna and Child.

Frank B. Mayer (1827-1899).

Independence.

Harper Pennington.

Portrait of James Buchanan Johnston at the age of 14 years.

Francis Pourbus the younger (1569-1622).

Portrait of Josepha Boegart.

Sir Joshua Reynolds (1723-1792).

Portrait of Mrs. Hammond.

William Henry Rinehart (1825-1874).

Marble bust of Henry Elliot Johnston.

Marble bust of Harriet Lane Johnston. (Lent by Miss May S. Kennedy.)

Marble Cupid. Henry E. Johnston, jr., at the age of 2 years, as Cupid stringing his bow.

George Romney (1734-1802).

Portrait of Miss Kirkpatrick.

Thomas Prichard Rossiter (1817-1871).

The Prince of Wales (King Edward VII) and President Buchanan, with the Prince's suite, members of the President's Cabinet and other guests, at the Tomb of Washington, Mount Vernon, 1860.

Edwin Lord Weeks (1849-1903).

A Street Scene in the East.

Artist unknown. (After Correggio.)

Madonna and Child.

Comprised in the Harriet Lane Johnston bequest are also several miscellaneous articles of historical interest which are exhibited in connection with the paintings and sculptures.

GIFT OF CHARLES L. FREER.¹

AMERICAN ARTISTS.

Thomas W. Dewing.

Portrait of a Young Girl.

The Piano.

The Blue Dress.

After Sunset.

The Carnation.

Early Portrait of the Artist's Daughter.

Before Sunrise.

Portrait in Blue.

Study of a Woman Seated.

A Portrait.

Girl with Lute.

Portrait of a Girl.

Portrait of the Artist's Daughter.

Portrait of Thomas W. Dewing.

Mandolin.

La Comedienne.

The Mirror.

Yellow Tulips.

A Lady Playing the Violoncello.

The Garland.

The Blue Dress.

The Lute.

In White.

The Four Sylvan Sounds. (Two two-fold wood screens
painted in oil.)

Sappho (Pastel).

The Pink Dress (Pastel).

The Pearl (Pastel).

Nude Study (Pastel).

In Rose (Pastel).

Pastel No. 4.

Pastel No. 6.

Pastel No. 14.

Pastel No. 20.

Study of a Head (Silver point).

Study of a Nude Model (Silver point).

Study of a Young Woman's Head in Two Tones (Silver
point).

¹ According to the terms of the deed of gift, this collection remains in the possession of Mr. Freer during his life.

Childe Hassam.

The Chinese Merchants.

Winslow Homer.

Early Evening.

Waterfall in the Adirondacks (Water color).

A Fisherman's Day (Water color).

Sun and Cloud (Water color).

Gari Melchers.

Portrait of President Roosevelt.

John S. Sargent.

Landscape with Goats.

The Weavers.

Joseph Lindon Smith.

Priestess from Ankor-Wat, Cambodia, Indo-China.

Seated Buddha, from the Monument of Boro-Boedor, Java.

Abbott H. Thayer.

Head.

Portrait of the Artist's Son.

Portrait of the Artist's Eldest Daughter.

The Virgin.

Diana.

Sketch of Cornish Headlands.

Capri.

Monadnock in Winter.

Winged Figure.

Portrait of a Lady.

Monadnock No. 2.

Monadnock Mountain (Water color).

Dwight W. Tryon.

A Lighted Village.

Moonlight.

The Rising Moon—Autumn.

Sea—Sunset.

Twilight—Early Spring.

Springtime.

Daybreak—May.

Sunrise—April.

New England Hills.

Twilight—May.

The Evening Star.

Morning.

Sea—Night.

Sea—Morning.

Springtime.

Summer.

Dwight W. Tryon—Continued.

Autumn.

Winter.

Dawn.

The Sea—Evening.

April Morning.

October.

Autumn Day.

Night.

Autumn Morning.

Twilight—Autumn.

Evening—September.

Twilight—November.

An Autumn Evening.

Morning Mist.

[Winter—Central Park (Water color).

Pasture Lands—Early Spring (Water color).

Central Park—Moonlight (Pastel).

Winter—Connecticut Valley (Pastel).

Late Spring (Pastel).

Night—A Landscape (Pastel).

Niagara Falls (Pastel).

Night—A Harbor (Pastel).

Early Night (Pastel).

The Sea—Moonlight (Pastel).

November Afternoon (Pastel).

The Sea—East Wind (Pastel).

The Sea—A Freshening Breeze (Pastel).

Easterly Storm (Pastel).

Night—The Sea (Pastel).

Autumn Evening (Pastel).

Moonlight (Pastel).

Sunset Before Storm (Pastel).

John H. Twachtman (1853–1902).

Drying Sails.

The Hidden Pool.

James McNeill Whistler (1834–1903).

Portrait Sketch of Mr. Whistler.

Portrait of Major Whistler.

Portrait of F. R. Leyland.

Rose and Silver—La Princess du Pays de la Porcelaine.

Jeune Femme Dite L'Americaine—Arrangement in Black and White. No. 1.

Nocturne. Southampton.

Nocturne. Blue and Silver—Bognor.

James McNeill Whistler (1834-1903)—Continued.

Nocturne. Blue and Silver—Battersea Reach.
Nocturne. Gray and Silver—Chelsea Embankment.
Symphony in Gray—Early Morning, Thames.
Nocturne. Opal and Silver.
The Thames in Ice.
Blue and Silver—Trouville.
Variations in Pink and Gray—Chelsea.
Variations in Flesh Color and Green—The Balcony.
Harmony in Purple and Gold, No. 2—The Golden Screen.
The Little Blue and Gold Girl.
Venus Rising From the Sea.
Venus.
Symphony in Green and Violet.
The White Symphony—Three Girls.
Symphony in White and Red.
Variations in Blue and Green.
Symphony in Blue and Pink.
Rose and Gold—The Little Lady Sophie of Soho.
The Little Red Glove. (Unfinished.)
Rose and Brown—La Cigale.
An Orange Note—Sweetshop.
A Note in Blue and Opal—The Sun Cloud.
Vert et Or—Le Raconteur.
Petite Mephiste.
Green and Gold—The Great Sea.
The Little Nurse.
The Angry Sea.
The Summer Sea.
Blue and Silver—Boat Entering Pourville.
Gray and Gold—High Tide at Pourville.
The Butcher Shop.
The Gray House.
Purple and Gold—Phyrne, the Superb, Builder of Temples.
Chelsea Shops.
Blue and Gray—Unloading.
The Sea and Sand.
Harmony in Brown and Gold—Old Chelsea Church.
Blue and Green—The Coal Shaft.
The White House.
Wortley—Note in Green.
Low Tide.
A Note in Red.
A Portrait.
Devonshire Landscape.

James McNeill Whistler (1834-1903)—Continued.

Little Green Cap.

Yellow and Blue.

Purple and Blue.

Trafalgar Square—Chelsea.

Portrait of Stevie Manuel.

Nocturne. Blue and Gold—Valparaiso.

The Little Faustina. (Unfinished.)

Gray and Silver—The Life Boat (Gris et Argent—Le Bateau de Sauvetage).

Gold and Orange—The Neighbors (Or et Orange—Les Voisines).

The Little Red Note (La Petit Note Rouge).

The Sad Sea—Dieppe.

Gray and Silver—The Mersey (Water color).

Blue and Gold—The Rose Azalea (Water color).

Chelsea Children (Water color).

Thames Near Erith (Water color).

Blue and Silver—Chopping Channel (Water color).

Green and Silver—Beaulieu Terrace (Water color).

Portrait of Mrs. Whibley (Water color).

The Sea Shore (Une Plage) (Water color).

Oxted, Surrey (Water color).

Moreby Hall (Water color).

Amsterdam in Winter (Water color).

Southend Pier (Water color).

Note in Blue and Opal—Jersey (Water color).

Study for "The Tall Flower" (Water color).

London Bridge (Water color).

St. Ives—Sunset (Water color).

St. Ives—Cornwall (Water color).

Venice Harbor (Water color).

Southend—Sunset (Water color)..

Southend—The Pleasure Yacht (Water color).

Reach in Upper Thames (Water color).

Ranleigh Gardens (Water color).

Pink Note—The Novelette (Water color).

Nocturne. Black and Red—Back Canal, Holland (Water color).

Nocturne. Gray and Gold—Canal, Holland (Water color).

Nocturne. Grand Canal, Amsterdam (Water color).

Petit Dejeuner—Note in Opal (Water color).

The Studio—Note in Pink and Purple (Water color).

Harmony in Violet and Amber (Water color).

James McNeill Whistler (1834-1903)—Continued.

A Note in Green (Water color).
Pink Note—Shelling Peas (Water color).
Bravura in Brown (Water color).
Erith—Evening (Water color).
Gray and Silver—Pier, Southend (Water color).
Opal Beach (Water color).
The Mouth of the River (Water color).
The Bathers (Water color).
The Anchorage (Water color).
The Ocean Wave (Water color).
Millie Finch (Water color).
Flower Market, Dieppe (Water color).
Resting in Bed (Water color).
A Little Red Note—Dordrecht (Water color).
Nude Figure and Cupid (Water color).
The Blue Dress (Pastel).
Venice (Pastel).
A Violet Note (Pastel).
Rose and Red—The Little Pink Cap (Pastel).
The Purple Cap (Pastel).
The Green Cap (Pastel).
Harmony in Blue and Violet (Pastel).
Venetian Doorway (Pastel).
Writing on the Wall (Pastel).
Sleeping (Pastel).
Pour le Pastel. Rose and Opal (Pastel).
Morning-Glories (Pastel).
Mother and Child—The Pearl (Pastel).
A Street in Venice (Pastel).
Nocturne. Battersea Bridge (Pastel).
The Purple Iris (Pastel).
Venus Astarte (Pastel).
The Grand Canal, Venice (Pastel).
The Shell (Pastel).
The Isles of Venice (Pastel).
The Marble Palaces (Pastel).
Bead-Stringers, Venice (Pastel).
The Model Seated (Pastel).
The Blue Girl (Pastel).
Little Nude (Pastel).
The Purple Cap (Pastel).
Annabel Lee (Pastel).
Venetian Courtyard (Pastel).

James McNeill Whistler (1834-1903)—Continued.

Doorway (Pastel).

Resting (Pastel).

A Study in Red (Pastel).

Blue and Rose—The Open Fan (Pastel).

113 Drawings and sketches.

1 Album of sketches.

413 Etchings and dry points (626 impressions).

173 Lithographs (194 impressions).

3 Wood engravings.

38 Original copper plates (including the Thames set of 16, with an impression from each of the plates after they had been defaced, and the Coast Survey plate).

The entire decorations of The Peacock Room.

ORIENTAL PAINTINGS.

Screens. Japanese, 146; Chinese, 4.

Panels. Japanese, 70; Chinese, 40.

Kakemono. Japanese, 272; Chinese, 174.

Makimono or scroll paintings. Japanese, 18; Chinese, 141.

Albums containing from 4 to 78 paintings and sketches each.

Japanese, 4; Chinese, 29.

Tibetan paintings, 13.

ORIENTAL POTTERY.

Japanese, 754; Chinese, 263; Korean, 224.

Central and western Asian, 297, of which 158 were from Rakka, 96 from Persia, 15 from Babylonia, and the remainder from miscellaneous sources, including Saltonabad, Hembodji, Djohar, Damascus, and Arabia.

Egyptian, 137; Moorish, 1; Greek, 3.

ORIENTAL BRONZES.

Chinese, 220; Japanese, 6; Egyptian, 7; Persian, 2; Grecian, 2; and 1 each from Korea, Babylonia, Syria, Cambodia, Anthia, Swankholer Sukhotai, Chien-Rai (Western Laos), and an unknown locality.

STONE OBJECTS, SCULPTURES, AND CUTTINGS.

Chinese, 242 (including 105 jade objects); Japanese, 1; Egyptian, 20.

LACQUERED OBJECTS.

Japanese, 22; Chinese, 9.

GLASS.

A collection of ancient Egyptian glass, comprising bottles, vases, and miscellaneous shapes, numbering over 600 pieces. Also 1 piece each of Persian and Chinese glass.

WOOD CARVINGS.

Japanese, 12; Chinese, 2; Egyptian, 3.

MISCELLANEOUS OBJECTS.

Includes gold ornaments, medallions, etc., of Byzantine and Cypriote origin, ivory statuettes from Cambodia, and various objects from China, Japan, Korea, Egypt, and Damascus, aggregating 62 in number.

GIFT OF WILLIAM T. EVANS.¹

John White Alexander (1856-1915).

A Toiler.

Hugo Ballin.

The Sibylla Europa—Prophesied the Massacre of the Innocents.

The Lesson.

John Wesley Beatty.

Plymouth Hills.

Otto Walter Beck.

Christ before Pilate (Pastel).

Suffer the Little Children to Come unto Me (Pastel).

James Carroll Beckwith.

The Blacksmith.

Frank Alfred Bicknell.

October Morning.

Ralph Albert Blakelock.

At Nature's Mirror.

The Canoe Builders.

Moonrise.

Sunset, Navarro Ridge, California Coast.

Robert Frederick Blum (1857-1903).

Canal in Venice, San Trovaso Quarter.

George H. Bogert.

Sea and Rain.

George Elmer Browne.

The Wain Team.

George de Forest Brush.

The Moose Chase.

William Gedney Bunce.

Sunset, San Giorgio, Venice.

Emil Carlsen.

The South Strand.

¹ This collection of the works of contemporary American artists, begun in 1907, has been continuously enlarged until the present time.

- Mary Cassatt.
Caresse Enfantine.
- William Merritt Chase.
Shinnecock Hills.
- Frederick Stuart Church.
The Black Orchid.
Circe.
- William Baxter Palmer Closson.
Nymph and Water Babies at Play.
- William Anderson Coffin.
September.
- J. Foxcroft Cole (1837-1892).
Late Afternoon near Providence.
- Charlotte Buell Coman.
Early Summer.
- Eanger Irving Couse.
Elk-Foot (Pueblo Tribe).
- Kenyon Cox.
Plenty.
- Louise Cox.
May Flowers.
- Bruce Crane.
Autumn.
- Charles Courtney Curran.
The Perfume of Roses.
- Leon Dabo.
Evening on the Hudson.
- Elliott Daingerfield.
The Child of Mary.
- Charles Harold Davis.
Summer.
- Henry Golden Dearth.
An Old Church at Montreuil.
- Frank De Haven.
Castle Creek Canyon, South Dakota.
- Edwin Willard Deming.
The Mourning Brave.
- William Rowell Derrick.
The Plaza.
- Louis Paul Dessar.
Return to the Fold.
The Watering Place.
- Charles Melville Dewey.
The Harvest Moon.
The Close of Day.

Thomas Wilmer Dewing.

Summer.

Paul Dougherty.

Sun and Storm.

Charles Warren Eaton.

Gathering Mists.

Wyatt Eaton (1849-1896).

Ariadne.

Portrait of William T. Evans.

Benjamin R. Fitz (1855-1891).

A Pool in the Forest.

James William Fosdick.

Adoration of Saint Joan of Arc. (Fire etching on wood.)

Ben Foster.

Birch-Clad Hills.

George Fuller (1822-1884).

Ideal Head.

Portrait of Henry B. Fuller, 1873.

Henry Brown Fuller.

Illusions.

Robert David Gauley.

The Fur Muff.

Edward Gay.

The Hillside.

Lillian Matilde Genth.

Adagio.

Depths of the Woods.

R. Swain Gifford (1840-1905).

Near the Ocean.

Sanford R. Gifford (1823-1880).

The Villa Malta.

Albert Lorey Groll.

Laguna—New Mexico.

Charles Paul Gruppe.

The Meadow Brook.

Jonathan Scott Hartley (1845-1912).

Bronze bust of William T. Evans.

Childe Hassam.

Spring, Navesink Highlands.

The Georgian Chair.

Arthur Turnbull Hill.

After a Storm, Amagansett.

Winslow Homer (1836-1910).

High Cliff, Coast of Maine.

The Visit of the Mistress.

- William Henry Howe.
My Day at Home.
- Alfred Cornelius Howland (1838-1909).
Friendly Neighbors.
- William Morris Hunt (1824-1879).
The Spouting Whale.
- George Inness (1825-1894).
Niagara.
Sundown.
Georgia Pines.
September Afternoon.
- Alphonse Jongers.
Portrait of William T. Evans.
- William Sergeant Kendall.
An Interlude.
- John La Farge (1835-1910).
Visit of Nicodemus to Christ.
- William Langson Lathrop.
The Three Trees.
- Ernest Lawson.
An Abandoned Farm.
- Louis Loeb (1866-1909).
The Siren.
- Will Hicok Low.
Christmas Morn.
- Albert Pike Lucas.
October Breezes.
- Clara Taggart MacChesney.
A Good Story.
- William Edgar Marshall (1836-1906).
Portrait of Henry Wadsworth Longfellow.
Portrait of the Artist, age 23.
- Homer D. Martin (1836-1897).
Lower Ausable Pond.
Evening on the Seine.
The Iron Mine, Port Henry, New York.
- Willard Leroy Metcalf.
A Family of Birches.
- Addison T. Millar (1860-1913).
The Waterfall.
- Robert C. Minor (1840-1904).
A Hillside Pasture.
Great Silas at Night.
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- James Henry Moser (1854-1913).
 Evening Glow, Mount McIntyre.
Henry Siddons Mowbray.
 Idle Hours.
John Francis Murphy.
 The Path to the Village.
 Indian Summer.
Charles Frederick Naegele.
 Mother Love.
George Glenn Newell.
 Mists of the Morning.
H(enry) Hobart Nichols.
 Moonrise at Ogunquit.
Leonard Ochtman.
 Morning Haze.
Henry Ward Ranger.
 Entrance to the Harbor.
 Connecticut Woods.
 The Cornfield.
 Bradbury's Mill Pond No. 2.
 Groton Long Point Dunes.
Robert Reid.
 The White Parasol.
 The Mirror.
Frederic Remington (1861-1909).
 Fired On.
Theodore Robinson (1852-1896).
 La Vachère.
 Old Church at Giverny.
William S. Robinson.
 Monhegan Headlands.
Albert Pinkham Ryder.
 Moonlight.
William Sartain.
 Algerian Water Carrier.
Walter Shirlaw (1838-1909).
 Among the Old Poets.
 Roses.
 Water Lilies.
Roswell Morse Shurtleff (1838-1915).
 The Mysterious Woods.
William Thomas Smedley.
 One Day in June.

- Abbott Handerson Thayer.
Dublin Pond, New Hampshire.
- Dwight William Tryon.
November.
- John Henry Twachtman (1853-1902).
Round Hill Road.
The End of Winter.
The Torrent.
Fishing Boats at Gloucester.
- Alexander Theobald Van Laer.
Early Spring.
- Elihu Vedder.
The Cup of Death.
- Douglas Volk.
The Boy with the Arrow.
- Henry Oliver Walker.
Eros et Musa.
Musa Regina.
Portrait of Mrs. Evans and Son.
- Horatio Walker.
Sheepyard—Moonlight.
- Edgar Melville Ward.
The Blockmaker.
- Frederick Judd Waugh.
After a Northeaster.
Southwesterly Gale, St. Ives.
The Knight of the Holy Grail.
- Julian Alden Weir.
A Gentlewoman.
Upland Pasture.
Portrait of Wyatt Eaton.
- Worthington Whittredge (1820-1910).
Noon in the Orchard.
- Carleton Wiggins.
Evening after a Shower.
The Pasture Lot.
- Guy C. Wiggins.
Columbus Circle—Winter.
Gloucester Harbor.
- Irving Ramsay Wiles.
The Brown Kimono.
Russian Tea.
- Frederick Ballard Williams.
A Glade by the Sea.
Conway Hills.

Alexander H. Wyant (1836-1892).

Autumn at Arkville.

The Flume, Opalescent River, Adirondacks.

Housatonic Valley.

Spring.

Cullen Yates.

Rock-Bound Coast, Cape Ann.

The Evans collection also includes an excellent series of proofs of American wood engravings, 115 in number, representing the work of Victor Bernstrom, William B. P. Closson, Timothy Cole, John P. Davis, Frank French, T. Johnson, F. S. King, Elbridge Kingsley, G. Kruell, R. A. Muller, C. A. Powell, S. G. Putnam, John Tinkey, F. H. Wellington, Henry Wolf, and Fred Yuengling.

OTHER PERMANENT ACQUISITIONS.

Paul W(ayland) Bartlett.

Statue of Lafayette.

Original model, in plaster, of the bronze equestrian statue erected in the Square of the Louvre, Paris, France, in 1900, by the school children of the United States.

Gift of the sculptor, 1914.

Nicolas Berghem (1620-1683).

Cattle Piece, Peasants, etc.

Received with the effects of James Smithson, founder of the Smithsonian Institution.

Frederic Edwin Church (1826-1900).

Aurora Borealis.

Gift of Miss Eleanor Blodgett, of New York, 1907.

Frank Duveneck.

Portrait sketch of Walter Shirlaw at the age of 35.

Gift of Mrs. Walter Shirlaw, 1913.

R. E. W. Earl.

Portrait of Andrew Jackson in the Uniform of a Major General, U. S. Army.

Presented to the National Institute in 1844 by Maj. William H. Chase, U. S. Engineers. Received from the Institute in 1862.

John Elliott.

Diana of the Tides. A mural decoration.

Gift of Mr. and Mrs. Larz Anderson, of Washington, 1910.

Antoine Etex (1808-1888).

Scene from the "Gentleman of France."

Gift of Mr. Nathan Appleton, of New York, 1903.

Harrington Fitzgerald.

The Wreck.

Gift of the artist, 1913.

Horatio Greenough (1805-1852).

Statue of Washington. Marble.

Transferred to the custody of the Smithsonian Institution
by joint resolution of Congress approved May 22, 1908.

Osman Hamdy Bey (1842-1910).

Tomb of "Mahomet the Gentleman" at Broussa.

Bequest of Mrs. Elizabeth C. Hobson, of Washington, for
whom it was painted in 1884. 1912.

Du Bois Fenelon Hasbrouck. /

Autumn Landscape.

Presented by Mr. Frederic Fairchild Sherman, of New
York, in memory of his wife, Eloise Lee Sherman, 1913.

George Peter Alexander Healy (1808-1894).

Portrait of F. P. G. Guizot.

Painted in 1841 on the commission of American citizens
residing in Paris, and by them forwarded to President Tyler
to be hung in one of the public buildings in Washington.
Received from the National Institute in 1862.

Portrait of William C. Preston.

Portrait of President John Tyler.

These two portraits were painted for the National Insti-
tute, from which they were received in 1862.

Portrait of Col. Albert G. Brackett, U. S. Army.

Bequest of Mrs. Albert G. Brackett, of Washington, 1912.

Alfredo Helsby.

Full Moon. A landscape at Limache, Chile.

Presented by the Embassy of Chile at Washington,
through Señor Don Eduardo Suarez-Mujica, Ambassador,
1915.

Vinnie Ream Hoxie (1847-1914).

Marble statue of the goddess Sappho, typifying the Muse of
Poetry.

Modeled by Vinnie Ream between 1865 and 1870. Gift
of Brig. Gen. Richard L. Hoxie, U. S. Army (retired), of
Washington, 1915.

Samuel Isham (1855-1914).

Wooded Landscape.

Gift from the estate of Samuel Isham, in accordance with
the wishes of the artist, 1914.

Eastman Johnson (1824-1906).

Portrait of Mrs. Cross, of Milford, Pa.

Gift of Mrs. James W. Pinchot, of Washington, 1910.

Edward Kemeys (1843-1907).

The Still Hunt.

Plaster model of the crouching cougar, being the original of the bronze cast in Central Park, New York City.

Gift of the sculptor, 1883.

Henry Hudson Kitson.

Bronze bust of the Right Honorable, the Viscount Bryce, O. M., Ambassador of Great Britain to the United States, 1907-1913.

Gift of the sculptor, 1914.

Isidore Konti.

Beale and Carson hailing Stockton's Flagship.

Bronze tablet commemorating an act of heroism by Acting Lieutenant (afterwards General) Edward F. Beale and Kit Carson during the War with Mexico.

Gift of Hon. Truxton Beale, of Bakersfield, Cal., 1910.

Norwood Hodge MacGilvary.

Twilight after Rain.

Presented by Mr. Frederic Fairchild Sherman, of New York, in memory of his wife, Eloise Lee Sherman, 1913.

Michelangelo (1475-1564).

Head of David. Plaster cast from the original.

Gift of Louis Amateis, of Washington, 1912.

Adrien Moreau.

Crossing the Ferry.

Presented by Mrs. James Lowndes, of Washington, in memory of her father, Lucius Tuckerman, 1908.

Joseph Mozier (1812-1870).

Il Penseroso. (Marble.)

Transferred from the Capitol at Washington, 1888.

Elizabeth Nourse.

Fisher Girl of Picardy.

Presented by Mrs. Elizabeth C. Pilling, of Washington, in memory of her husband, John Walter Pilling, 1915.

Arvid F. Nyholm.

Portrait of John Ericsson.

Gift of the Swedish American Republican League of Illinois, 1912.

Lucien Whiting Powell.

Grand Canyon of the Yellowstone River.

Gift of Hon. J. B. Henderson, of Washington, 1907.

Thomas Buchanan Read (1822-1872).

Portrait of himself.

Gift of Miss Maria Fassett Robinson, of Washington, 1907.

Henry Reuterdaahl.

The Combat between the Monitor and the Merrimac.

Gift of the Swedish American Republican League of Illinois, 1912.

José de Ribera (Spagnoletto) (1588-1652).

Job and His Comforters.

Presented by Dr. Robert W. Gibbes, of Columbia, S. C., in 1841, to the National Institute, from which it was received in 1862.

William Rimmer (1821-1879).

The Falling Gladiator. Original cast in plaster.

Gift of Miss Caroline Hunt Rimmer, of Lexington, Mass., 1915.

Walter Shirlaw (1838-1909).

Bell Foundry, Germany. Study for "Toning of the Bell." Study Head—Madam Capri.

The Inn, Germany.

Easter Greeting (Pastel).

Gift of Mrs. Walter Shirlaw, 1913.

Max Weyl (1837-1914).

Indian Summer Day.

Gift of thirty Washington friends of the artist, to commemorate his seventieth birthday, December 1, 1907.

Artists unknown.

Portrait of Washington.

Bust portrait belonging with the Lewis collection of Washington relics, purchased by the Government in 1878.

Received from the Department of the Interior in 1910.

Portrait of Andrew Jackson.

Deposited by the Navy Department, 1907.

LOAN COLLECTIONS.¹

From The National Association of Portrait Painters.

Cecilia Beaux. Portrait of Hon. A. Piatt Andrew.*

George Bellows. Portrait of Willard Straight, Esq.*

Frank W. Benson. Portrait of Philip Little.*

William M. Chase. Portrait of Miss N.;* Portrait of William Grosvenor.*

William Cotton. Portrait of Miss Dorothy Gordon King.*

Brenetta Herrman Crawford. Portrait of Mrs. Riccardo Martin.*

¹ This list includes all objects exhibited as loans during the fiscal year 1914-1915, those removed from the Gallery previous to June 30, 1915, being indicated by an asterisk.

From The National Association of Portrait Painters—Continued.

- Earl Stetson Crawford. Portrait of "Peggy" as Pierette; *
 Portrait of Miss Eleanor Woodroffe.*
 Howard Gardiner Cushing. Portrait.*
 Lydia Field Emmet. Marjorie.*
 Charles Dana Gibson. Portrait of A Girl with Guitar.*
 Victor D. Hecht. Portrait of Mrs. Isaac Untermeyer.*
 Robert Henri. Portrait.*
 Henry Salem Hubbell. Portrait.*
 John C. Johansen. Portrait of Mr. Alexander W. Drake.*
 De Witt M. Lockman. Portrait—Mr. E. L. Y.; * Portrait
 of Miss D.*
 George Luks. Portrait of Morgan Robertson.*
 M. Jean MacLane. Portrait—Léonie.*
 Ellen Emmet Rand. Portrait of H. F. du Pont, Esq.*
 S. Montgomery Roosevelt. Portrait of A Lady; * The Rt.
 Hon., the Earl of Kintore, G. C. M. G.*
 William T. Smedley. Portrait of Miss G.*
 Eugene E. Speicher. Portrait.*
 Robert Vonnoh. Portrait of Mrs. W. W. Walker.*
 Irving R. Wiles. Portrait of Miss Gladys Wiles.*

From The American Federation of Arts.

- W. Dacres Adams, of London. The Monument.
 Edmond Aman-Jean, of Paris. Portrait Group of the Family
 of Aman-Jean.
 S. J. Lamorna Birch, of Penzance, England. October: The
 River Course near Montreuil-sur-Mer.
 Jacques Emile Blanche, of Paris. Anniversary.
 Stephen Bosznay, of Budapest. By the River.
 Max Clarenbach, of Wittlaer bei Kaiserswerth, Germany.
 Garden.
 Charles Cottet, of Paris. Port of Douarnenez, Brittany.
 John Crealock, of London. The Red Sofa.
 Ludwig Dill, of Karlsruhe, Germany. Evening: Junipers in
 Winter.
 Sir Alfred East (English, 1849-1913). The Rainbow.
 Hermann Göhler, of Karlsruhe, Germany. Schloss Monrépos.
 Franz Grässel, of Munich. Ducks on the Bank.
 Alexander Jamieson, of London. Silence.
 Julius Paul Junghanns, of Düsseldorf. A Memory of the
 Tyrol.
 Laura Knight, of Penzance, England. The Governess.
 Gaston La Touche (French, 1854-1913). The Ford.
 B. Eastlake Leader, of St. Buryan, Cornwall, England.
 Moonlight after Rain.

From The American Federation of Arts—Continued.

Henri J. G. Martin, of Paris. The Village of Labastide.
 Bertram Priestman, of London. The Chalk Quarry.
 René Xavier Prinnet, of Paris. The Author.
 George Sauter, of London (German). Mrs. Penelope Wheeler.
 Willy Sluiter, of Laren, Holland. Autumn Day.
 George Spencer Watson, of London. Hilda and Maggie.

From Mr. Ralph Cross Johnson, of Washington.

Sir Augustus W. Callcott. St. Paul's Church and Blackfriars
 Bridge, London.

John Constable. Dedham Vale.

David Cox. Outskirts of a Wood.

N. Drost. Portrait of a Young Girl.

Govaert Flinck. Madonna and Child.

Francesco Guardi. A View in Rome.

William Hogarth. Portrait of Mrs. Price.

J. Jordeans. Rubens' Wife.

Sir Thomas Lawrence. Portrait of Mrs. Towry; Portrait of
 Sir Thomas Lawrence; Portrait of Lord Abercorn.

Nicolaes Maes. A Man's Portrait.

Sir Henry Raeburn. Portrait of Archibald Skirving.

Sir Joshua Reynolds. Portrait of the Duchess of Ancaster;
 Portrait of Viscount Hill; Portrait of Lord Lifford, Irish
 Chancellor.

David Roberts. Kings College Chapel, Cambridge, England.

George Romney. Portrait of Sir Sampson Wright.

William Clarkson Stanfield. Marine.

Jan Steen. The Doctor's Visit.

J. B. Tiepolo. Christ in the Temple.

Jakob Van Strij. Evening by a River with Horsemen.

Richard Wilson. Italian Landscape; Italian Landscape,
 Evening.

From Mr. W. A. Slater, of Washington.

Jean Baptiste Camillé Corot. A Gray Day; Nymphs and
 Fauns.

Charles François Daubigny. Springtime.

Eugène Delacroix. Return of Columbus to Court of Ferdi-
 nand.

Narcisse Diaz. Forest of Fontainebleau; Group of Dogs;
 Island of the Cupids.

Jules Dupré. The Landing; Three Oaks.

Ignaz Marcel Gaugengigl. The Quartet.

Meindert Hobbema. The Mill.

Madam Vigée Lebrun. Portrait of a Lady.

Louis Victor Felix Mettling. Portrait of a Boy.

From Mr. W. A. Slater, of Washington—Continued.

Jean François Millet. The Drinking Place; Seamstresses Sewing on Shroud.

Monticelli. Female Figure.

A. Pasini. At the Barracks, Constantinople.

Raffaëlli. Winter Landscape.

Rembrandt van Rijn. The Rabbi.

Theodore Rousseau. Sunset in a Wood.

Jacob Ruysdael. The Dunes near Haarlem.

Constant Troyon. Horses at Watering Trough.

Alexander H. Wyant. Landscape.

From Mrs. Abercrombie-Miller, of Washington.

Eugène Verboeckhoven. Sheep.

Hillner. Alpine Landscape.

From Mrs. Dora B. Amateis.

Louis Amateis. Portrait bust of the Artist's Son. (Marble.)

From the Duchess de Arcos.

Eighteen paintings by foreign artists, only a part of which have been identified, and one marble, Bacchante, by Bien Aimé.

From Mr. John S. Beck.

Charles Willson Peale (Attributed to). Portrait of George Washington.

From Mr. J. Carroll Beckwith, of New York.

J. Carroll Beckwith. The Emperor.

From Col. John Biddle, U. S. Army.

Thomas Sully. Portrait of Major John Biddle, U. S. Army.

From Miss Susan D. Biddle, of Detroit, Mich.

Thomas Sully. Portrait of Eliza Bradish Biddle, wife of Major Biddle.

From Dr. Nathan Boyd, of Washington.

G. Mazzolini. Portrait of Beatrice Cenci.

Titian. Portrait of his Daughter. (Copy.)

From Mr. Henry K. Bush-Brown, of Washington.

Henry K. Bush-Brown. Bust of Lincoln. Plaster cast of bronze bust of Lincoln, by Mr. Bush-Brown, at the National Cemetery, Gettysburg.

From the Capitol, through Mr. Elliott Woods, Superintendent.

Louis Amateis. Bronze Doors for West Entrance to U. S. Capitol.

From Dr. Thomas M. Chatard, of Washington.

Janssens. Portrait of Henrietta Maria.*

Sir Peter Lely. Portrait of Mrs. Rous.*

Thomas Sully. Portrait of Mrs. Nicholas Bosley, of Hayfields, Md.*

- From Mr. William Baxter Palmer Closson, of Newton, Mass.
William Baxter Palmer Closson. The Angel.
- From Mrs. John Cropper, of Washington.
Michele Gordigiani. Portrait of Mr. John Cropper; Portrait of Mrs. John Cropper.
- From Rev. F. Ward Denys, of Washington.
Sir William Beechey. Mrs. Hawkins and Family.
Frank Duveneck. Water Carriers—Venice.
Perugino. Madonna and Child.
Guido Reni. St. Michael.
George Frederick Watts. Lady and Two Children.
Richard Wilson. Rome and the Campagna.
- From Mr. W. A. Dickey, of Seattle, Wash., and others.
Sydney M. Laurence. The Top of the Continent—Mt. McKinley, Alaska.
- From Mrs. Florence A. Ebbs, of Washington.
Romanelli. Esmeralda. (Marble.)
Harriet Hosmer (Attributed to). Cordelia. (Marble.)
- From Miss Silvie de Grasse Fowler, of Washington.
Nicolas de Largillière. Portrait of François Paul de Grasse de Rouville, Amiral Comte de Grasse.
G. P. A. Healy. Portrait of Theodosius O. Fowler.
Benjamin West. Portrait of St. Bernard dog, Hero.
- From Dr. Anton Gloetzner, of Washington.
Otho van Veen (Attributed to). The Nativity.
- From Mrs. Mary F. C. Goldsborough, of Washington.
Hobbema (Attributed to). The Old Mill.
- From Mr. William F. Halsall, of Boston.
William F. Halsall. Our Glory—Battleship Oregon; * The Ocean Rover; * Like a Sheeted Ghost.*
- From Mrs. John Hay.
Augustus Saint-Gaudens. Standing Lincoln, reduced copy of the statue of Lincoln by Saint-Gaudens in Lincoln Park, Chicago, Ill. (Bronze.)
- From the estate of E. E. Howell.
Thomas Moran. From Hiawatha.
- From Mrs. Julian James, of Washington.
Robert Weir. View up the Hudson.*
- From Mrs. Edward Kemeys, of Washington.
Frederick W. Freer. Portrait of Edward Kemeys.
Alfred Jansson. A Gray Day in the Environs of Chicago.
Edward Kemeys. Tiger between ruins of stone wall, brown landscape; Catamount standing on rock-shelf; Catamount on rock-shelf with wraith; Catamount standing at attention; Scotch Deerhound; Young Hounds; Bison on plains, examining skull.

From Mrs. Edward Kemeys, of Washington—Continued.

Edward Kemeys. 48 Models of animals in plaster and bronze, including the following received during 1915: Bronzed plaster casts of Coyote and Fox, and 2 bronze candelabra with animal figures.

E. Kemeys, jr. Head of Hound.

Stanley McCormick. Black Peak on the Urraca Ranch, Cimarron, N. M.

Bert Phillips. Painting of Indian Chief, Na-Ah-Kuh-Na; Painting of Indian Chief, Tudl-Tur.

F. Reaugh. Cattle on plains at rest, brown-and-white steer in foreground.

Fred Richardson. Spring Landscape.

von Saltza. Portrait of Edward Kemeys; Portrait of Mrs. Edward Kemeys.

R. M. Shurtleff. Autumn woodland scene.

Grace Sulzer. Painting of Indian girl, Sha-i-ti-wi; landscape, Quogue, Long Island.

Unsigned. Head of Catamount.

From Mrs. Louise Catlin Kinney.

W. H. Fisk. Portrait of George Catlin.

From Mr. Henry Hudson Kitson, of New York.

Henry Hudson Kitson. Bust of Vittorio Emanuele III, King of Italy (Plaster).

From Mrs. James Lowndes.

Pierre Marie Beyle. Fishing for Eels.*

Blaise Alexandre Desgoffe. Still Life.*

Jehan Georges Vibert. Preparing for the Masquerade.*

From Mrs. Mary Peoli Maginn, of New York.

John J. Peoli. Love Conquers; Cupid Caged.

From Mr. Benson B. Moore, of Washington.

L. Fissette. Interior.

Z. Noterman. Might is Right.

Adrian von Ostade (Attributed to). Interior.

Rembrandt (Attributed to). Portrait of Rembrandt.

From Mrs. Frances E. Musgrave, of Washington.

J. Van Lerijs. Death Preferred.

From Mrs. James W. Pinchot.

Launt Thompson. Statue of Napoleon (Bronze).

From Mrs. J. W. Powell, of Washington.

Thomas Moran. In the Grand Canyon of the Colorado.

From Mrs. C. V. Purdy, of Washington.

Thomas Cole. Autumn.

From Mrs. Augustus Saint-Gaudens, of Windsor, Vt.

Augustus Saint-Gaudens. Bust of Lincoln—being a replica of the bust part of the statue of Lincoln by Saint-Gaudens, in Lincoln Park, Chicago (Bronze).

From Mr. Watterson Stealey, of Washington.

Jean Baptiste Adolphe Gibert. Portrait of Henry Clay.

From Mr. Theodore Sutro, of New York.

Edward Moran. Thirteen historical marine paintings, as follows: The Ocean—The Highway of all Nations; Landing of Leif Ericson in the New World, in 1001; The Santa Maria, Niña, and Pinta, Evening of October 11, 1492; The Debarkation of Columbus, Morning of October 12, 1492; Midnight Mass on the Mississippi over the Body of Ferdinand de Soto, 1542; Henry Hudson entering New York Bay, September 11, 1609; Embarkation of the Pilgrims from Southampton, August 5, 1620; First Recognition of the American Flag by a Foreign Government—In the Harbor of Quiberon, France, February 13, 1778; Burning of the Frigate Philadelphia—In the Harbor of Tripoli, February 16, 1804; The Brig Armstrong Engaging the British Fleet—In the Harbor of Fayal, September 26, 1814; Iron versus Wood—Sinking of the Cumberland by the Merrimac in Hampton Roads, March 8, 1862; The White Squadron's Farewell Salute to the Body of Captain John Ericsson, New York Bay, August 25, 1890; Return of the Conquerors—Typifying our Victory in the late Spanish-American War, September 29, 1899.

From Mr. George Treat, of Valdez, Alaska.

Sydney M. Laurence. The Trapper.

From Mr. Julius A. Truesdell, of Washington.

Gaylord Sangston Truesdell. After the Rain;* The Wayside Shrine;* Moonlight at the Sheep Fold;* Cows by the Sea;* The Path through the Gorse;* Spring Landscape.*

From Miss Emily Tuckerman, of Washington.

Eduardo Zamaçois. Refectory.

From Mr. Walter R. Tuckerman, of Washington.

Gilbert Stuart. Portrait of Joseph Tuckerman, D. D.*

From Mrs. George W. Vanderbilt, of Washington.

Edouard Manet. Le Repos; Rouvière, in the rôle of Hamlet. Ignacio Zuloaga. Rosita.

From Mrs. Elizabeth Walbridge, of Washington.

Francesco di Rosa (Called Pacicco). Judith with the Head of Holofernes.

From Mr. T. B. Walker, of Minneapolis, Minn.

Benjamin West. The Raising of Jairus' Daughter.*

- From Miss Olivia and Miss Ida Walter, of Washington.
Constantino Brumidi. The Five Senses.*
- From Mrs. Henry Wells, of Washington.
Murillo (Copied from). The Beggars.
- From Mr. William D. Wheeler, of Washington.
Thomas Sully. Portrait of the Artist's Daughter, Mrs. John H. Wheeler, and her Sons.
- From Hon. George Peabody Wetmore, of Newport, R. I.
Constant Wauters. Versailles.
Edouard Detaille. Military Review (Water color).
- From a friend of the Gallery.
Paul Veronese (Attributed to the period of). The Finding of Moses.

ART TEXTILES.

This important collection was enriched by many interesting articles, all of which were received as loans. Fifty-eight pieces of laces from Mrs. H. Kirk Porter, of Washington, were mainly illustrative of the early history of lace, as drawnwork, reticella, cut-work, embroidery, etc.; of bobbin lace of the 17th and 18th centuries; and of appliqué and needlepoint laces of the 18th and 19th centuries. A collection deposited by Mrs. Frank W. Mahin, wife of the American consul at Amsterdam, Holland, comprised 43 pieces, including besides a few embroideries, fine examples of point d'Alençon, Venetian, Argentan, Valenciennes, Mechlin, Brussels, Lille, Binche and other varieties.

Among the other noteworthy acquisitions were two pieces of Venetian rose point lace, from Miss Clara Farrar Smith, of Washington; a large number of embroideries on piña cloth, most of them antique and all showing fine needlework, from Mrs. Newton W. Gilbert, of Manila, P. I.; ecclesiastical brocade costumes, Venetian velvet of the 17th century, a piece of white silk embroidered in silver and gold and an escutcheon, from Mrs. Levi P. Morton, of Washington and New York; a square of rare purple cut velvet brocade of Louis XVI and an embroidered waistcoat, from Miss Emily Tuckerman, of Washington; a piece of Rhodian embroidery, an Empire tapestry and a square of Genoese velvet with fringes, from Mrs. Walter R. Tuckerman, of Edgewood, Md.; and an important piece of 15th century Flemish tapestry representing the departure of the caravels of Columbus from Palos, from Mr. and Mrs. John L. Steward, of New York.

The Museum was also greatly indebted for the loan, during a part of the year, by Messrs. P. W. French & Co., of New York, of 6 examples of tapestries of great beauty and value, which may be

briefly described as follows: A Royal Gobelines tapestry, sheep shearing scene, woven by Audran; a Royal Aubusson tapestry, woven about 1780, picturing Aeneas meeting Dido at the shores of Carthage, and surmounted with a beautiful red drapery effect border with garlands of flowers; a Royal Beauvais tapestry, a mythological subject with magnificent border of fruits and flowers, woven by Beheagle about 1700; a Flemish Verdure tapestry of the very finest quality with splendid border of fruits and flowers, woven by Werniers about 1700; and two 17th century Flemish tapestries, woven in Brussels about 1640, one after Rubens' cartoons and depicting the story of Sophonisba, the other after cartoons by one of Rubens' pupils, picturing Alexander the Great meeting his mother.

About the middle of the year the east-north range in the older building, in which the art textiles are exhibited, was entirely renovated, which included the filling in of several arched recesses in order to secure a flush wall surface throughout, the removal of much heavy woodwork about the windows, general repairs and pointing up, and the repainting of the walls and ceilings in tints better suited to the character of the exhibits. Several cases were subsequently added, and in February the ladies' committee began a new arrangement and installation of the collection which was continued well into the spring, though not wholly completed. Much time was spent in securing more appropriate and effective backgrounds for the laces in the upright cases, and other various changes were made, which resulted in greatly improving the appearance of the hall in general and of the contents of the cases.

The death in August, 1914, of Mrs. James W. Pinchot, to whom the Museum is mainly indebted for the establishment of this collection and who has been its principal benefactor, made necessary the reorganization of the committee of ladies to which its welfare is confided. This was effected during the year, Mrs. H. Kirk Porter being chosen chairman of the committee, whose other members are Mrs. R. G. Lay, Miss Tuckerman, Mrs. James Harlan, Mrs. Paul Bartlett, Mrs. A. E. Bates, Mrs. Frederick Keep and Miss Adams.

MISCELLANEOUS.

VISITORS.

The number of visitors to the new building aggregated 321,712, of which 262,135 represented the week day attendance and 59,577 the Sunday attendance, being a daily average of 837 for the former, and of 1,145 for the latter. The older Museum building, which is open only on week days, had a total of 133,202 visitors, or a daily average of 425. Owing to the extensive alterations in progress, which necessitated the dismantling of most of the collections and

the closing of its halls to the public during 5 months, the attendance at the Smithsonian building was reduced to 40,324 persons.

The following tables show, respectively, the attendance of visitors during each month of the past year, and for each year since 1881, when the older Museum building was first opened to the public:

Number of visitors during the year ending June 30, 1915.

Year and month.	Older Museum Building.	New Museum Building.	Smithsonian Building.	Year and month.	Older Museum Building.	New Museum Building.	Smithsonian Building.
1914.				1915.			
July.....	12,488	25,027	7,832	January.....	6,754	18,863	.....
August.....	15,991	33,569	9,522	February.....	7,243	20,443	.....
September.....	16,206	32,931	713	March.....	9,110	24,902	1,741
October.....	12,510	36,524	.....	April.....	13,801	29,563	8,169
November.....	8,280	23,008	.....	May.....	10,171	31,026	5,668
December.....	7,297	17,970	.....	June.....	13,351	27,286	6,679
				Total.....	133,202	321,712	40,324

Number of visitors to the Museum and Smithsonian Buildings since 1881.

Year.	Older Museum Building.	New Museum Building.	Smithsonian Building.	Year.	Older Museum Building.	New Museum Building.	Smithsonian Building.
1881.....	150,000	.....	100,000	1899-1900.....	225,440	.....	133,147
1882.....	167,455	.....	152,744	1900-1.....	216,556	.....	151,563
1883.....	202,188	.....	104,823	1901-2.....	173,888	.....	144,107
1884 (half year).....	97,661	.....	45,565	1902-3.....	315,307	.....	131,174
1884-85 (fiscal year)	205,026	.....	105,993	1903-4.....	220,778	.....	143,988
1885-86.....	174,225	.....	88,960	1904-5.....	235,921	.....	149,330
1886-87.....	216,562	.....	98,552	1905-6.....	210,886	.....	149,661
1887-88.....	249,665	.....	102,863	1906-7.....	210,107	.....	153,591
1888-89.....	374,843	.....	149,618	1907-8.....	299,659	.....	237,132
1889-90.....	274,324	.....	120,894	1908-9.....	245,187	.....	198,054
1890-91.....	286,426	.....	111,669	1909-10.....	228,804	50,403	179,163
1891-92.....	269,825	.....	114,817	1910-11.....	207,010	151,112	167,065
1892-93.....	319,930	.....	174,188	1911-12.....	172,182	281,837	143,134
1893-94.....	195,748	.....	103,910	1912-13.....	173,858	319,806	142,420
1894-95.....	201,744	.....	105,658	1913-14.....	146,533	329,381	102,645
1895-96.....	180,505	.....	103,850	1914-15.....	133,202	321,712	40,324
1896-97.....	229,906	.....	115,709				
1897-98.....	177,254	.....	99,273	Total.....	7,580,776	1,454,301	4,532,416
1898-99.....	192,471	.....	116,912				

PUBLICATIONS.

The publications of the year comprised 9 volumes and 41 separate papers. The former consisted of the annual report of the Museum for 1914; volume 47 of the Proceedings; volume 19 of Contributions from the National Herbarium, entitled "Flora of New Mexico," by

Wootton and Standley; and the following Bulletins: No. 71, "A monograph of the Foraminifera of the North Pacific Ocean, Part V, Rotaliidae," by Joseph A. Cushman; No. 82, "A monograph of the existing crinoids, Volume 1, The Comatulids, Part 1," by Austin H. Clark; No. 88, "Revision of Paleozoic Stellerioidea with special reference to North American Asteroidea," by Charles Schuchert; No. 89, "Osteology of the armored Dinosauria in the United States National Museum, with special reference to the genus *Stegosaurus*," by Charles W. Gilmore; No. 90, "A monograph of the molluscan fauna of the *Orthaulax pugnax* zone of the Oligocene of Tampa, Florida," by William Healey Dall; and Special Bulletin No. 4, "American Hydroids, Part III, The Campanularidae and the Bonnevilliellidae," by Charles C. Nutting. Two papers for which there is a continuing demand were reprinted. These were Bulletin 39, part N, "Directions for preparing specimens of mammals," by Gerrit S. Miller, jr.; and paper No. 73 from the Museum Report for 1893, entitled "The poisonous snakes of North America," by Leonhard Stejneger. Of the 41 pamphlets issued in separate form in a small edition for prompt distribution to specialists, 12 were from volume 47, 28 from volume 48, and 1 from volume 49 of the Proceedings.

The distribution of volumes and separates to libraries and individuals on the regular mailing list aggregated approximately 43,400 copies, and, in addition, about 10,900 copies of publications of previous years were sent out in response to special applications.

Besides the papers above mentioned many contributions based on material in the Museum were published by other bureaus of the Government and by private institutions, all of which are cited in the bibliography. Those issued by the Smithsonian Institution comprise the following which appeared in the Miscellaneous Collections: "Explorations and field-work of the Smithsonian Institution in 1913"; "Archeology of the Lower Mimbres Valley, New Mexico," by J. Walter Fewkes; "The present distribution of the Onychophora, a group of terrestrial invertebrates," by Austin H. Clark; "Cambrian geology and paleontology. III. Pre-Cambrian Algonkian algal flora," by Charles D. Walcott; "Report upon a collection of ferns from western South America," by William R. Maxon; "The microspectroscope in mineralogy," by Edgar T. Wherry; and "Explorations and field-work of the Smithsonian Institution in 1914." In addition to these the Institution also published "The most ancient skeletal remains of man," by Aleš Hrdlička, in the Report for 1913, and "An index to the Museum Boltenianum," by William Healey Dall.

The editorial office, besides supervising the printing of the Museum publications, also has charge of all miscellaneous printing and binding.

LIBRARY.

With accessions during the year aggregating 2,209 volumes, 2,530 pamphlets, and 183 parts of volumes, the Museum library was increased to 45,818 volumes and 76,295 pamphlets and unbound papers, or a total of 122,113 titles, exclusive of duplicates. The additions were obtained by purchase, by exchange of Museum publications and by gift, the most liberal benefactors having been several members of the Museum staff. Among the donations of special note may be mentioned the scientific library of the late Prof. Theodore N. Gill, and the addition by Dr. William H. Dall of 162 titles to the sectional library of mollusks.

The appropriation for books, which has never been increased above \$2,000 annually, is inadequate for securing all of the absolutely necessary publications only obtainable by purchase, this being especially so in the matter of current scientific literature and of expensive works printed privately. The library also meets with difficulty in regard to binding, the amount that can be spared from the printing item for this purpose being quite insufficient.

The unsettled conditions in Europe have delayed the receipt of many publications from the Old World, and have prevented to a large extent the negotiations for additional exchanges which had been begun. Over 3,000 volumes were borrowed from the Library of Congress and smaller numbers from the libraries of the Geological Survey, the Army Medical Museum and Library, and other bureaus.

The Museum has unfortunately been deprived of the important botanical library of Dr. E. L. Greene, which was deposited in 1904 for a period of 10 years, with the privilege of purchasing. Not having the means for complying with these terms the books have been disposed of elsewhere.

MEETINGS AND CONGRESSES.

The auditorium, the adjoining committee rooms, and other space in the new building were frequently utilized during the year for lectures, meetings and other public gatherings having objects relating to those of the Institution and also for official purposes of the Government. The lectures of The Washington Society of the Fine Arts were, as during the two previous years, given in the auditorium and were well illustrated in various ways. There were three courses, as usual, one of 6 lectures for members of the society on "The art of to-day," one of 6 lectures for the public on "The decorative arts—The great periods in the history of art," and finally one of 5 lectures on "The romantic period of music." The first of these series

was given on Wednesday evenings, the second on Tuesday evenings, and the third on Saturday evenings, not more than three in any month, from November 7 to April 14. The titles of the lectures in the members' course were, "Sculpture," by Mr. Lorado Taft; "Painting," by Dr. Christian Brinton; "Architecture," by Prof. A. D. F. Hamlin; "The dance," by Mr. Troy Kinney; "Dress," by Mrs. John W. Alexander; and "Pageantry," by Mr. Joseph Lindon Smith. The other two courses were each given by a single person. The public course, by Mr. Frank Alvah Parsons, was divided as follows: "Historic decorative art periods and their relation to our modern life"; "The Italian decorative styles and their influence on all subsequent art periods"; "The Italian Renaissance in France under Francis I, Henry II, III, and Louis XIV, and their use and abuse in modern life"; "The periods of Louis XV, XVI and Empire as they may be effectively used now"; "The English Renaissance under Henry VIII, Elizabeth and the Stuart Kings, with their American adaptations"; "The Georgian and Colonial periods and our present day problem." The music series was by Prof. Daniel Gregory Mason, with the following titles: "Romanticism in music"; "Franz Peter Schubert"; "Robert Schumann"; "Felix Mendelssohn"; "Frédéric Chopin."

The Washington Academy of Sciences was sponsor for a series of 5 popular lectures delivered in the auditorium on March 18 and 25, and April 1, 8 and 15, as follows: "The volcano Kilauea in action," by Dr. Arthur L. Day; "Nematodes, their relations to mankind and to agriculture," by Dr. N. A. Cobb; "High explosives and their effects," by Prof. Charles E. Munroe; "Insects and their relation to disease," by Mr. W. D. Hunter; and "The earth," by Dr. R. S. Woodward. Under the joint auspices of the same organization and the Biological Society of Washington, two lectures were given, on January 19 and March 11, respectively. The first, by Dr. John Hjort, Commissioner of Fisheries of Norway, was on the subject of "Migrations and fluctuations of the marine animals of western Europe"; the second, by Mr. Wilfred H. Osgood, of the Field Museum of Natural History, on "Fur seals and other animals on the Pribilof Islands." The former was illustrated by lantern slides, the latter by the same and by moving pictures. The Washington Society of the Archaeological Institute of America provided two illustrated lectures, one on December 12, by Prof. Walter Dennison, of Swarthmore College, treating of "The battlegrounds of Julius Caesar in France and Belgium"; the other, on March 19, by Mr. Frank Edward Johnson, on "The Phoenician and Roman art treasures of Tunisia." Under the Audubon Society of the District of Columbia two lectures on bird life were given, one on January 26 by Mr. Gorst,

the other, on April 6, by Mr. T. G. Pearson, Secretary of the National Audubon Society.

The National Academy of Sciences, during its annual meeting from April 19 to 21, 1915, made use of the auditorium for its public sessions for the reading of scientific papers. Included in the programme were two lectures under the William Ellery Hale foundation, entitled "The evolution of the earth," by Prof. Thomas Chrowder Chamberlin, of the University of Chicago. On the evening of April 19, after the first lecture, the audience repaired to the picture gallery and the rotunda for a conversazione. The annual meeting of The American Fisheries Society was held in the new building from September 30 to October 3, 1914, mainly in the committee rooms, but on two afternoons the salmon industry of the Pacific coast was illustrated in the auditorium by means of moving pictures. The Nineteenth International Congress of Americanists, which had been scheduled to meet in the Museum from October 5 to 10, 1914, was indefinitely postponed on account of the war conditions in Europe, but the organizing committee having charge of the arrangements held two meetings during the year. The honorary scientific society of the Sigma Xi met on February 19 and March 5, 1915, and the Council of the American Association for the Advancement of Science was given accommodations for a session on April 20, 1915. The twelfth annual convention of the National Rural Letter Carriers' Association had the use of the auditorium and committee rooms from August 11 to 15, 1914, the foyer also being utilized for an exhibition of small mail wagons for rural service, cartons, etc., for parcel post use, rural mail boxes, and other objects of interest to the members of the convention. Under the auspices of the Virginia Postmasters' Association, a joint convention of postmasters from Delaware, Maryland, Virginia, and North and South Carolina was held in the auditorium from October 5 to 7, 1914. It was supplemented by an exhibit of containers for shipping various kinds of articles by parcel post.

One of the most important features of the year was the illustration of marine life below the surface of the sea by means of moving pictures. Taking advantage of a collapsible tube designed for submarine work, the photographer has been able to picture submerged objects in a manner not heretofore recognized, and the exhibition proved a revelation suggestive of many possibilities. The series shown was part of an extensive film made at the Bahama Islands by The Submarine Film Corporation, under whose auspices and at whose expense the exhibition was held, being given for the benefit of the scientific men in the Government service. It was the first time that these films had been publicly exhibited, and so great was the demand for admission that two sessions were called for on

the same day, July 16, 1914, at which the combined attendance amounted to 1,350 persons. Besides coral, algal and other reef illustrations, the film included several special and more spectacular features.

Two receptions were given by the Regents and Secretary of the Institution. The first, on April 17, 1915, was in honor of the National Society of the Daughters of the American Revolution, and followed a lecture in the auditorium, under the auspices of the Society, on "The City of Washington," by Mr. Clayton E. Emig. Music was furnished by the Marine Band. The second was to the delegates to the Sixth Annual Convention of the American Federation of Arts, then in session at the New Willard Hotel, and was held on May 13. In view of the extensive loan exhibition of industrial art assembled in the foyer under the auspices of the Federation, the guests were received there, but a part of the main exhibition floor was also lighted and visited.

A number of meetings were held by branches of the Department of Agriculture and by others interested in agricultural matters. Under the Rural Economics Club of the Department a lecture on the "Effect of war on agriculture" was delivered on August 17, 1914. The Office of Farm Management Investigations of the Bureau of Plant Industry was furnished with accommodations for a series of meetings on November 5, 6 and 7. The American Farm Management Association had the use of the auditorium and other rooms on November 9 and 10. The office of Markets and Rural Organization held hearings on November 12, 13 and 14, relative to the rules governing the enforcement of the United States Cotton Futures Act. A series of 12 Saturday lectures under the auspices of the Bureau of Plant Industry were given between December 19 and March 20.

SPECIAL EXHIBITIONS.

The principal special exhibition of the year was one held under the auspices of The American Federation of Arts, as described below. Under the National Gallery of Art will be found an account of another very important loan exhibition made by The National Association of Portrait Painters. A subject in which all are interested, the erection of a George Washington Memorial Building, was brought to the attention of the public by the display from May to December, 1914, of all the designs submitted in competition for this proposed structure, those of the successful architects remaining until January, 1915, and for a short period a large colored drawing depicting the exterior appearance of the building under the accepted plans was also shown. The collection of the National Red Cross Society, described in previous reports, was retained on exhibition

until May, 1915, when it was temporarily placed in storage to make room for other special purposes, but it will soon be returned to its former place. The models of the Pedro Miguel Locks and the Gatun Dam Locks of the Panama Canal were withdrawn by the Department of War during most of the year, but for several months they occupied their customary position in the foyer of the new building.

Though not actually of the nature of public exhibition, it may be mentioned that one of the courts in the new building has from time to time been used for the display of samples of stone submitted by competitors for the construction of public buildings. Such exhibitions have been of extreme interest to geologists, but of more direct importance has been the opportunity afforded of acquiring additions to the building stone collection of the Museum, contractors generally having been very generously disposed in this respect. The stones submitted during the past year were for the Red Cross Building, a memorial to the women of the Civil War, and for the Memorial Amphitheatre at Arlington, Va.

The exhibition first referred to above, planned and assembled in the name of The American Federation of Arts, relates wholly to industrial art and is entirely restricted to American products. It is considered to be one of the most notable displays of its kind ever held in this country, and while not claiming to be complete, it is remarkably comprehensive and very representative. There is an exceedingly wide range of exhibits, and though the exhibitors were allowed to make their own selections, there being no jury and but few specially invited participants, the standard upheld is extremely high. From first to last the exhibition emphasizes two things, the value of beauty in design and the fine quality of artistic products now being made in the United States. Organized as an object lesson for the public, it demonstrates that the useful can be beautiful, and that art has its practical place in almost every phase of life.

Committees were appointed on behalf of both the Federation and the Museum to give direction to the enterprise, but it is only just to say that the idea originated with the secretary of the Federation, Miss Leila Mechlin, who has also borne the brunt of the work. The Museum furnished the space and the cases, and assisted in the installation and to a slight extent in soliciting materials. The place allotted for the purpose is on the ground floor of the new building near the north entrance, comprising a part of the lobby, the entire foyer and five rooms of varying size opening into the latter, two on the east and three on the west side. The exhibition was so planned as to be ready for inspection during the spring convention of The American Federation of Arts, and was opened on the evening of May 13, 1915, with a special view and a reception to the delegates. It will continue until the middle of September.

It is expected that some form of catalogue will be issued by the Federation. In this connection only a brief and very general review of the exhibition can be given, but it is desired to emphasize the fact that this splendid array of materials is in a line with one of the Museum's most important branches, in which certain valuable collections have already been assembled.

The first of the exhibits encountered in approaching from the north entrance consists of tapestries, which occupy the south side of the lobby and extend on to the walls at both ends. Not only are wall hangings, both large and small, shown, but also several pieces of furniture, chairs and sofas, and two screens, all of American design and tapestry covered. These materials came from four makers, the Herter looms, the Baumgarten looms, Pottier & Stymus, and the Edgewater looms, all of which are located in or near New York. The fabrics were woven on hand looms in precisely the same way that the greatest of the world's tapestries have been made, and practically with the same object in view—that of artistic decoration. Some of the designs are copies of old patterns, while others are new and by American designers. The colorings are very interesting and the texture is pleasing.

The adjoining foyer or great hall, measuring about 147 feet long by 53 feet wide, has been filled with cases extending in rows through the middle and, with the addition of some screens, placed between the piers and against the walls at the sides. In this area are the main exhibits of glass and pottery, and displays of many other classes of objects, such as textiles, silver, iron, copper and bronze work, jewelry, electric lamps, bookbinding, etc. The display of glass is exceedingly extensive and occupies a main position in the foyer. The largest, consisting of cut glass, is furnished by the Libbey Glass Co., of Toledo, Ohio, and comprises many beautiful examples, both as to design and workmanship, well illustrating to what a high state of excellence this almost exclusively American industry has been carried. Dorflinger & Sons, of White Plains, Pa., show some very interesting pieces of both cut and engraved glass, while among other contributors are H. C. Mueller, of Yonkers, N. Y., and T. G. Hawkes & Co., of Corning, N. Y. A unique exhibit, sent by Mrs. Sarah Ryel Comer, of Dorchester, Mass., consists of glass and porcelain exquisitely colored with iridescent tints, recalling the soap bubble by the transparency of color and delicacy of tone. A representative collection of their favrile glass, of a type unlike that which is commercially current, is the contribution of the Tiffany Studios, of New York. It is chiefly exhibited in the American living room, where two tall and some smaller vases stand on the high shelf of the mantel, while other beautiful examples are shown in a cabinet. In the foyer just outside

the door of this room are two interesting panels, designs in color for mosaics of Tiffany glass.

The pottery makers make a wonderful showing, one that must be surprising to those who have not in recent years followed the development of this important craft. Every variety of form and color seems now to be produced in this country, and much of the work turned out is of great artistic worth. Each, furthermore, has its distinguishing characteristics. The industry appears to be pretty well scattered through the United States, for in this exhibition examples have come from as far south as New Orleans and as far west as Colorado, not a few from New England and a fair share from the Middle West, and in each instance native clays are used. Some specially interesting and unique specimens have been contributed by the Poillon Pottery at Woodbridge, N. J. These are in large part reproductions of ancient examples, such, for instance, as a beaker jug, 2,200 B. C., and a few designs of a Cretan dinner set dating from 2,200 to 1,500 B. C., besides other pieces notable in form and color. The Pewabic Potteries, of Detroit, which have also produced some remarkable examples comparable with the best of ancient times, are represented by a few choice pieces, while the Fulper Potteries have furnished an excellent group in which are particularly noticeable several pieces of an exquisite red—"famille rose"—fine in shape and beautiful in color gradation. The Rookwood, one of the oldest and best known of American potteries, has sent an excellent display, as has also the Sophie Newcomb Pottery, of New Orleans; and, in addition, the Van Briggles, Paul Revere, Moravian and Enfield potteries are all charmingly and well represented.

All of the above are for the most part makers of vases, jars, tiles and the like. From the Dedham Pottery have come tableware, plates, bowls, etc., interestingly decorated in repeated, original patterns, in a single color; and from the Lenox chinamakers in Trenton, N. J., a display of fine porcelain very beautifully decorated. The latter locality is the one place in America where china comparable to that made in England and France is being produced.

The display of silver ware and jewelry, while limited, is representative of the best both in workmanship and design. George E. Germer has sent an alms basin and a chalice beautifully designed and wrought; George Blanchard, four dozen pieces of flat table silver made by hand; Arthur Stone, 14 pieces very finely designed and made; George E. Gebelein, a coffee urn lent by its present owner; and S. E. Lamprey & Co., other excellent examples. Handmade jewelry is contributed by Frank Gardner Hales, Mrs. Josephine Hartwell Shaw and Miss Margaret Rogers; an assortment of effective designs in silver and shell, unique in character, by Carl Schon, of Baltimore; and a very interesting group of enamels, by Miss

Elizabeth Copeland. There are also some interesting examples of bookbinding, leather work, by Miss Eleanor Sweringen, Miss Marion Lane and Miss Elsie Ingle; baskets by Mrs. Helen Tanquary Smith; and lamps and other objects by various contributors.

Beginning now with the rooms opening from the foyer, the first of these on the east side, which measures about 36 by 30 feet and contains two large windows and two doors, has been given over to a most charming and instructive exhibit. No single class of objects is specifically on display, but selections from the various kinds deemed necessary to obtain harmony and elegance, to secure comfort and pleasurable effect, have been combined and arranged in a manner to demonstrate the possibilities of American manufacture toward satisfying the most fastidious tastes in the furnishing and equipment of a family living room. It is the most gratifying form of exhibition in showing, in the lesson designed to be taught, the actual utilization of American art products, with the added suggestion of a manner of applying them. The scheme, originating with the editors of "Good Furniture," was carried out in detail and elaborated by Mr. William Laurel Harris, an associate editor of that magazine and a well-known mural painter. The result has proved an unqualified success, due to the friendly cooperation of 35 different artists, craftsmen, business houses and manufacturers. All of the furniture came from Grand Rapids makers, the drapery silks were woven at the mills of the Cheney Brothers, and the rugs were made by an American Persian rug manufactory. There are pictures on the walls and examples of sculpture, favrile glass and pottery, besides some stenciled and embroidery work.

Drawing upon a descriptive account of the room, published elsewhere, it may be said that the general tone is of a golden brown, rich in color, on a cool gray plaster wall. The dominant effect is obtained largely by the use of silks with woven tapestries and panels of richly tooled leather, painted and gilded. On these deep warm tones the objects of art in bronze, pottery and favrile glass take on an added lustre and develop a singular charm. An unusual feature which adds much to one's pleasure at night are the shades for the electric fixtures, made of parchment and heavy leather cut in patterns and decorated with gold and color. This same note of sumptuousness and magnificence is repeated on the four sides of the room. The gold of the leather enhances the golden tones of the silk curtains, which, with their rich brocade of a Jacobean character, are not only very handsome in themselves but represent one of the most characteristic industries of an artistic nature that America has produced. The woven tapestries on the walls are charming in their quiet texture and lend themselves to the general scheme of decoration. They are deserving of the highest commendation. The

splendid mantel is exhibited by a craftsman specializing in such work and it was he who also furnished the remarkable fire irons so richly wrought in Jacobean design and pattern. The mantelpiece, skilfully made and carved, brings the spectator a step nearer the actual furniture as distinguished from the silks, tapestries, ornamented leather and other articles that are commonly called house furnishings. To really enjoy each piece of furniture one must actually see it, handle it or sit on it. Then and only then, is one properly able to appreciate and understand the resources of American designers and furniture makers.

The pictures, by well known artists, were taken from the National Gallery of Art with the exception of three, the work of Mr. William H. Holmes, curator of that Gallery, which were lent by him for the occasion. The sculpture includes pieces by Mr. Richard Brooks, Mr. H. K. Bush-Brown and Mr. Phimister Proctor. There are embroidered table covers by Miss Bush-Brown, and two embroidered silk fire screens by Mrs. Seward H. Rathbun. The larger screen, representing a peacock, gives an interesting note in contrast with the black fire irons and the dark woodwork of the fireplace. This note of iridescent color is repeated and emphasized by the favrile glass designed by Louis Tiffany. Two large vases, based on the peacock motive, furnish a striking and exquisite decorative note on the high shelf of the mantel. The overmantel panel is an elaborate composition of decorative flowers, painted on leather, with an undertone of metallic lustre. A big vase on the hutch between the doors is a wonderful example of the potter's art and again recalls, in a higher key, the sumptuous note of the mantel composition, emphasizing, by its handsome contrasts, the gold and silver of the leather on the wall behind. So, from one end of the room to the other, and from the ceiling to the floor, the exhibitors have combined and cooperated to obtain a dignified and harmonious arrangement of form and color.

The textiles other than those shown in the lobby and in the American living room have been mostly assembled in the large room adjoining the latter. Ten rugs, rich in color and handsome in design, contributed by Whittall, of Worcester, Mass., cover the walls, while in cases are displayed drapery silks, upholstery goods, dyed stuffs, embroideries and laces. The Orinoka Mills sent a comprehensive and valuable exhibit comprising materials of very artistic quality and excellent texture. The Cheney Brothers furnished not only examples of finished product, but also the designs and enlarged patterns illustrating how the weaving is done. The European Textile Company, of New York, shows several pleasing examples of wood block printing, similar in spirit and style to that formerly done in Austria; and Peter Myer, of New York, has contributed

some extremely interesting and, in a measure, odd fabrics showing Batik decorations. There are beautiful dyed fabrics from Neighborhood House in Washington, and also from Mr. Pellew, of New York. The Quaker lace manufactory of Philadelphia has supplied some remarkably fine and lovely machine laces, while handmade lace has come from Minnesota and from the School of Italian Workers in New York. Linens woven abroad from American designs are exhibited by McCutcheon, of New York, and exquisite ecclesiastical embroidery is shown by Mrs. Halsey Wood, of the same city.

In the most southern room on the west side of the foyer, allotted to the exhibition, the Gorham Company has installed an exceptionally rich and important collection of works in bronze and the precious metals and in stained glass. In the following room is a display by the School of Fine Arts of the Pennsylvania Museum of Industrial Art, a very extensive and comprehensive exhibit, including work in iron, pottery, leather, wood carving, jewelry, illustration, mural decoration and costume design. Not only is student effort shown, but that of graduates as well, with the result of demonstrating that a high standard has been set and upheld. In the third and final room is an exhibit prepared by the Art in Trades Club, of New York, illustrating art in house furnishing and decoration, a series of designs by Miss Sallie T. Humphreys showing not only the design but also the material produced therefrom—wall papers, bronzes, lamps and furniture. The room likewise contains some exceptionally interesting iron work from F. Kraser & Co., Samuel Yellin, the John Williams Co. and Googherty & Co. I. Kirehmayer, of Boston, has a little statuette of a Madonna in wood carving, which has been wrought with the skill and feeling of medieval work; while Conrad Scapecchi contributes some delightful works in gesso, graffito and illumination.

EXPOSITIONS.

The sundry civil act for 1914, approved June 23, 1913, authorized the exhibition at the Panama-Pacific International Exposition at San Francisco in 1915 of "such articles and materials as illustrate the function and administrative faculty of the Government of the United States tending to demonstrate the nature and growth of our institutions, their adaptation to the wants of the people, and the progress of the Nation in the arts of peace and war," and created a Government Exhibit Board to consist of three members, to be appointed by the President from the executive departments. The Board constituted under the latter provision consists of Hon. A. C. Miller, chairman, Dr. S. W. Stratton and Prof. F. Lamson-Scribner. The President also designated Mr. W. de C. Ravenel as secretary to

the Board, Mr. J. C. Boykin as assistant to the chairman, Mr. T. J. Taylor as disbursing officer and Mr. R. E. Shannon as transportation agent.

For the "purpose of inaugurating, installing, maintaining and returning said Government exhibits, together with all other necessary expenses of every kind connected therewith" Congress appropriated the sum of \$500,000, of which amount the Smithsonian Institution was allotted \$23,750 for the preparation and maintenance of its exhibit, besides 6,200 square feet of floor space in the Liberal Arts Palace. In this connection Mr. W. de C. Ravenel, administrative assistant of the National Museum, was appointed by the Secretary of the Institution the representative of that establishment and of its several governmental branches, and after consultation with the Government Board, it was decided to devote the greater part of the available funds to the presentation of ethnological subjects.

The most prominent features of this ethnological exhibit are four large family groups, patterned after those so well known to visitors to the National Museum but specially prepared for the exposition. They represent typical tribes in four widely separated regions, namely, the western or Alaskan Eskimo, which, on account of the better food supply and the milder climate, have advanced farther than their relatives in the East; the Zulu-Kaffir which, with the related Bantu tribes, live in the semi-arid southern extremity of the African continent; the Caribs of the interior of British Guiana, South America; and the Dyaks who live along the rivers of the interior of the Island of Borneo. The figures for these were modeled by Mr. U. S. J. Dunbar, sculptor, of Washington. Next comes a series of dwelling groups, reproduced in miniature, illustrating the architecture and village life of the western Eskimo, the Zulus, the Caribs, the Dyaks, the Jamamadi Indians of western Brazil, the Aino of the Island of Yezo, Japan, the early Hawaiians, the Navaho Indians of New Mexico and Arizona, the Chippewa Indians of the Lake Superior region, the Iroquois Indians of northern New York, and the Seminole Indians of Florida. In 16 cases are installed several hundred original objects obtained from the Indians and representing the arts, industries, domestic life, sports, etc., of the Eskimo, mainly of Alaska, the tribes of the northwest coast of North America, the South American tribes, including those of British Guiana, the Panama Indians, the Africans, the Dyaks of Borneo and the tribes of New Guinea. Supplementing the above are many photographic enlargements, and pictures of other kinds; and additional to it are several synoptical series of objects, illustrating the history of fire making and illumination, of the jackknife, of the saw, of the spindle, of the shuttle, of the hafted stone ax and the perforated stone ax.

Outside of ethnology the only exhibit of specimens consists of a splendid group of the common elk or wapiti of the Rocky Mountain region, comprising one individual each of the male, female and young. The specimens were obtained in the Yellowstone National Park, through the courtesy of the Secretary of the Interior, and were mounted by Mr. James L. Clark, of New York. This preparation was made in cooperation with the Biological Survey and is displayed in the Palace of Agriculture. In order to illustrate the important Museum exhibits in anthropology, biology and geology, an extensive series of lantern slides was made to be shown by means of a stereomotorgraph machine.

The parent institution and its other branches are all likewise represented by pictures, publications, charts, photographs, instruments, and more especially by an exact reproduction of the Langley experimental aeroplane which was successfully flown on the Potomac River, near Quantico, Va., on May 6, 1896, the first demonstration of the possibility of flight by a heavier than air machine.

The representative of the Institution received the hearty cooperation and assistance of all members of the staff in charge of the subjects that are illustrated, and as regards the Museum the most exacting duties in this respect naturally fell upon the head curator of anthropology, Mr. Holmes, and the curator of ethnology, Dr. Hough. At the time of the opening of the exposition, February 20, 1915, the exhibits of the Institution and its branches had been entirely installed and labeled.

The Panama-California Exposition at San Diego, Cal., also designed to celebrate the completion of the Panama Canal, was opened on January 1, 1915, and will continue during the entire calendar year. Its organization and maintenance are under local management, and though combining many features, that in which the Museum is most deeply interested is the illustration of man and his progress from earliest prehistoric times to the present. This part of the exhibition is housed in a permanent building and will be retained perpetually as a museum for San Diego. While not participating in this exposition in the same manner as at San Francisco, the Institution and Museum have aided very materially in the assembling of the anthropological collections, under plans drawn up in cooperation with the exposition officials and Dr. E. L. Hewett, director of exhibits. Two exhibits were prepared under the auspices of the Institution and the Museum, and both were successfully completed. The expenses were defrayed by the exposition, and while the collections brought together were, in greater measure, to become its property, a certain part of the material as well as the scientific results of the necessary expeditions were to accrue to the Institution.

The first of the exhibits referred to illustrates the physical history of man, to which purpose the sum of \$27,000 was allotted, the work being placed in charge of Dr. Aleš Hrdlička, curator of physical anthropology in the National Museum. The second has for its object the presentation of certain of the important industries of American aborigines, and received the attention of Mr. William H. Holmes, head curator of anthropology in the National Museum, to whom an allotment of \$5,000 was made. The work of collecting and preparation was begun in 1912, and involved the making of extensive series of casts and of other exhibits, besides the carrying out of a number of important expeditions which extended to various parts of the world, being mainly conducted by Dr. Hrdlička himself, though in some instances by others under his direction. These explorations have resulted in the securing of valuable anthropological information, which has already been discussed in Smithsonian and other publications.

The exhibit relating to the physical history of man has, through the intelligent effort of Dr. Hrdlička, been made to surpass considerably in richness, instructiveness and harmony, anything before attempted in this line. It is installed in five halls of moderate size, four of which are severally devoted to the following subdivisions of the subject, namely, the evolution of man, or his phylogeny; the development or growth of man, or his ontogeny; the racial, sexual and individual variations of man; and the causes which, outside of strict normal senility, contribute to the decline of the human organism, and in the vast majority of cases cause death, these causes being, in fact, disease and injury. The fifth hall is fitted up as an anthropological laboratory, with equipment and a library, and for use as a lecture room. The exhibit of the arts and industries of American aborigines consists primarily of six lay figure groups representing, respectively, the mining of iron ore and pigment materials; the mining of copper; the quarrying of soapstone; the quarrying of obsidian; the quarrying of building stone; and the arrow makers. These groups are supplemented by extensive series of the implements, utensils and art works generally of these ancient peoples. Provision has been made for replicas of certain of these groups and of other important antiquities for exhibition in the National Museum, which also acquires valuable skeletal and other materials from Peru, Alaska, Siberia, Mongolia and Bohemia.

ORGANIZATION AND STAFF.

The principal change during the year in the organization and staff of the Museum had reference to the divisions of mollusks and marine invertebrates which were, for economical and administrative reasons, combined, on October 16, 1914, in a single division under the

latter title. Had there been sufficient funds it would probably have been more advantageous to increase than diminish the number of divisions, or at least to have organized several sections, a course fully warranted by the heterogeneous character of the collections which have been classed under the term marine invertebrates, including, as they have, several classes, and materials from the fresh waters and the land as well as from the sea. The divisions of mollusks and marine invertebrates have obtained their resources from the same or similar sources, their collections have increased to an enormous extent, and their consolidation was the only solution of the problem of securing a closer supervision of the many groups without an increase in the number and expense of the staff. There were also other circumstances leading to the change, among them the contemplated resignation of the executive assistant curator of the division of marine invertebrates. The mollusks remain in charge of Dr. William H. Dall, honorary curator, who has been their sponsor for so many years, with the same assistance as before. The curatorship of the division was assumed by Dr. Paul Bartsch, previously assistant curator of mollusks, and on the same date, October 16, Mr. W. B. Marshall was promoted from aid to assistant curator. The resignation of Miss M. J. Rathbun, for many years assistant curator of marine invertebrates, who desired to give her entire time to research work, became effective December 31, 1914, and on January 11, following, she was designated by the Secretary as an associate in zoology. Her position as assistant curator was filled by the appointment on January 1 of Mr. Waldo L. Schmitt, previously a scientific assistant in the Bureau of Fisheries.

Mr. Paul R. Myers, aid in the division of insects, resigned on August 31, 1914; and Mr. G. P. Van Eseltine, aid in the division of plants, on April 30, 1915. Dr. C. H. T. Townsend, of the Bureau of Entomology, was designated honorary custodian of muscoid diptera on January 22, 1915. Prof. John O. Snyder, of Leland Stanford Junior University, who was engaged as expert ichthyologist in a revision of the large collection of fishes, was obliged to leave on December 31, 1914, to take up his college duties, after a year spent in Washington to the great advantage of the Museum. Mr. George de S. Canavarro, of the Forest Service, was appointed assistant curator of the section of wood technology on June 11, 1915, from which date this branch of the Museum's activities has been specifically recognized; and on January 1, the title of the superintendent of construction and labor, Mr. J. S. Goldsmith, was changed to superintendent of buildings and labor.

During the year the Museum staff suffered the loss of two of its distinguished members, Dr. Theodore N. Gill, deceased on September 25, 1914, and Dr. Albert C. Peale, who died on December 5, 1914.

Dr. Theodore Nicholas Gill was an associate in zoology in the National Museum and for many years a leading figure in scientific activities. He was born in New York City, March 21, 1837, the son of James Darrell and Elizabeth Vosburgh Gill, and received his early training from private schools and special tutors in that city. It was the desire of his parents that he should devote himself to the service of the Church and his early schooling was therefore directed to the classical studies with emphasis on Greek and Latin. It was found, however, that his inclination did not trend toward clerical service and he was assigned to the legal profession and read law diligently for some time, but never applied for admission to the bar.

Visits to the Fulton fish market in New York and the wharves where sailing vessels returning from distant cruises would bring curious animals from foreign ports, and the meeting with some of the early collectors and amateur naturalists excited his fancy and stimulated in him a love for natural history and the desire to devote himself to this field. We thus find him, in early youth, seeking and obtaining a scholarship at the Wagner Free Institute of Science in Philadelphia, which yielded him the meagre means that enabled him to pursue his studies in natural history, and to come in contact with that group of men who laid the foundation of American science.

It was in the winter of 1857 that he came to Washington to gain additional knowledge, before sailing to the West Indies to collect shells and other natural history objects for Mr. D. Jackson Stewart. The collections which he made on this visit to Barbados, Trinidad and other islands of the West Indian group were reported upon in the *Annals of the Lyceum of Natural History of New York*, and in the *Proceedings of the Philadelphia Academy of Natural Sciences*. During the preparation of these reports he had free access to the splendid library of J. Carson Brevoort, where most of his comparisons and critical studies were made. His next expedition was a visit to Newfoundland, which laid the foundation for his *Northern Boundary* report in 1860.

In 1861 he settled in Washington where his ability was promptly recognized and he was given charge of the library of the Smithsonian Institution, and when that was transferred to the Capitol in 1866 he continued in the service there until 1874, serving for a time as Assistant Librarian of Congress.

Shortly after coming to Washington he became connected with Columbian College (now George Washington University) where he occupied the chair of Zoology until 1910 when he was made emeritus professor. Here his services were appreciated not only by his students but also by the University, as attested by the fact that it bestowed upon him the degree of master of arts in 1865, doctor of

medicine in 1866, doctor of philosophy in 1870 and doctor of laws in 1895.

Rarely does one find, as in the present instance, the more or less accidental early phases in the groping for a career converge in such a manner as to at once become useful and necessary. Dr. Gill's early training was a most fortunate one, for the splendid classical schooling of his youth gave him a complete familiarity with Greek and Latin, and his legal knowledge, combined with the former, rendered him a judge where questions of nomenclature were involved. His subsequent library training brought him in contact with the world's literature, and this, yoked with great industry and a phenomenal memory, made him the acknowledged master in his chosen field. It also produced a breadth of knowledge that rendered him a fountain of information and, as someone has stated, "With the simplicity of the truly great and the truly able he gave freely of his stores of knowledge, so that to all the investigators who came in contact with him, he proved an ever ready source of exact and reliable information and a sound adviser." It is certain there are few workers in systematic biology in Washington and many other places who have not received assistance from Dr. Gill.

Dr. Gill's published zoological writings, covering more than 500 titles, are chiefly devoted to fishes. Here, as in his other studies, his efforts were largely directed to the production of a natural classification. His "Arrangement of the Families of Fishes" (1872), although considered decidedly radical when first propounded, is now generally accepted. He not only possessed the ability to accomplish systematic work, but he had the rare gift to render scientific facts available to the layman by presenting them in language both simple and charming. This is splendidly exemplified by his papers on "Parental Care among Freshwater Fishes" and "Contributions to the Life Histories of Fishes."

In addition to the many papers which he contributed to the Smithsonian Institution, the National Museum and the Proceedings of the Philadelphia Academy of Natural Sciences, he wrote most of the volume on fishes and much of that on mammals for the Standard Natural History, the zoological part of Johnson's Universal Encyclopedia and the zoological text of the Century and Standard dictionaries. His greatest excellence, however, was that of scientific critic, when his statements, though frank and fearless, were always friendly.

Dr. Gill's contributions to science were widely recognized and brought him honorary election to more than seventy-five scientific societies in the United States and abroad. In our own country he was a member of the National Academy of Sciences, the American Academy of Arts and Sciences, the American Philosophical Society,

the American Ornithological Union and the American Association for the Advancement of Science. Of the last he was president in 1897. He was also one of the ten founders of the Cosmos Club of Washington.

Dr. Gill, though one of the most profoundly learned men of his time, was characterized by innate modesty and gentleness, lacking personal vanity and ostentation.

Dr. Albert Charles Peale, aid in charge of the paleobotanical collections in the National Museum, died in Philadelphia on December 5, 1914, in his sixty-sixth year. Dr. Peale was born at Hecksherville, Pa., on April 1, 1849. He was trained as a physician, receiving his degree of doctor of medicine from the Medical School of Pennsylvania in 1871, but never practiced the profession. In this same year he became connected with the U. S. Geological and Geographical Surveys of the Territories under Dr. F. V. Hayden, continuing with that organization until the consolidation of the various independent surveys into the U. S. Geological Survey under Dr. Clarence King, of which he also was a member until 1898. Shortly after the latter date he was appointed to the staff of the National Museum, where he remained until the time of his death.

Dr. Peale was a faithful and conscientious worker, and was in close touch with Dr. Hayden, having his confidence in geological and official affairs throughout his entire administration. He was a man of remarkable memory for detail, and could recall with surprising accuracy observations made many years before. While with the newly organized Survey, under Maj. Powell, he prepared for publication the manuscript of the Three Forks Folio of Montana, the first of the new Geologic Atlas series to be submitted but not the first to be issued. It is no exaggeration to state that this work compares favorably with any done before or since, and remains a worthy illustration of his painstaking accuracy. For many years Dr. Peale was the official authority on mineral waters, a subject in which he first became prominent in connection with his work on the thermal springs of the Yellowstone National Park. He was a member of the American Chemical Society, the Academy of Natural Sciences of Philadelphia, the Philosophical, Geological and Chemical Societies of Washington, the National Geographic Society, and the Society of Colonial Wars.

THE MUSEUM STAFF.

[June 30, 1915.]

CHARLES D. WALCOTT, Secretary of the Smithsonian Institution, Keeper *ex officio*.

RICHARD RATHBUN, Assistant Secretary, in charge of the United States National Museum.

W. DE C. RAVENEL, Administrative Assistant.

SCIENTIFIC STAFF.

DEPARTMENT OF ANTHROPOLOGY:

William H. Holmes, Head Curator.

Division of Ethnology: Walter Hough, Curator; Neil M. Judd, Aid; J. W. Fewkes, Collaborator; Arthur P. Rice, Collaborator.

Division of American Archeology: William H. Holmes, Curator; E. P. Upham, Aid; J. D. McGuire, Collaborator.

Division of Old World Archeology: I. M. Casanowicz, Assistant Curator.

Division of Physical Anthropology: Aleš Hrdlička, Curator; R. D. Moore, Aid.

Division of Mechanical Technology: George C. Maynard, Curator.

Division of Graphic Arts: Paul Brockett, Custodian; Ruel P. Tolman, Aid.
Section of Photography: T. W. Smillie, Custodian.

Division of History: A. Howard Clark, Honorary Curator; T. T. Belote, Assistant Curator.

Associates in Historic Archeology: Paul Haupt, Cyrus Adler.

DEPARTMENT OF BIOLOGY:

Leonhard Stejneger, Head Curator; James E. Benedict, Chief of Exhibits.

Division of Mammals: Gerrit S. Miller, jr., Curator; Ned Hollister, Assistant Curator.

Division of Birds: Robert Ridgway, Curator; Charles W. Richmond, Assistant Curator; J. H. Riley, Aid.

Division of Reptiles and Batrachians: Leonhard Stejneger, Curator; R. G. Paine, Aid.

Division of Fishes: Barton A. Bean, Assistant Curator.

Division of Insects: L. O. Howard, Honorary Curator; J. C. Crawford, Associate Curator.

Section of Hymenoptera: J. C. Crawford, in charge.

Section of Myriapoda: O. F. Cook, Custodian.

Section of Diptera: Frederick Knab, Custodian.

Section of Muscoid Diptera: C. H. T. Townsend, Custodian.

Section of Coleoptera: E. A. Schwarz, Custodian.

Section of Lepidoptera: Harrison G. Dyar, Custodian.

Section of Orthoptera: A. N. Caudell, Custodian.

Section of Hemiptera: Otto Heidemann, Custodian.

Section of Forest Tree Beetles: A. D. Hopkins, Custodian.

Division of Marine Invertebrates: Paul Bartsch, Curator; William H. Dall, Honorary Curator of Mollusks; Waldo L. Schmitt, Assistant Curator; Austin H. Clark, Assistant Curator; William B. Marshall, Assistant Curator; C. R. Shoemaker, Aid; H. K. Harring, Custodian of the Rotatoria; Harriet Richardson Searle, Collaborator; Mary Breen, Collaborator.

Section of Helminthological Collections: C. W. Stiles, Custodian; B. H. Ransom, Assistant Custodian; P. E. Garrison, United States Navy, Assistant Custodian.

DEPARTMENT OF BIOLOGY—Continued.

Division of Plants (National Herbarium): Frederick V. Coville, Honorary Curator; W. R. Maxon, Associate Curator; P. C. Standley, Assistant Curator.

Cactaceæ, Crassulaceæ, and Miscellaneous Mexican Collections: J. N. Rose, Custodian.

Section of Grasses: Albert S. Hitchcock, Custodian.

Section of Cryptogamic Collections: O. F. Cook, Assistant Curator.

Section of Higher Algæ: W. T. Swingle, Custodian.

Section of Lower Fungi: D. G. Fairchild, Custodian.

Section of Diatoms: Albert Mann, Custodian.

Associates in Zoology: C. Hart Merriam, W. L. Abbott, Edgar A. Mearns, United States Army (retired), Mary J. Rathbun.

Associates in Botany: Edward L. Greene, John Donnell Smith, J. N. Rose.

Collaborator in Zoology: Copley Amory, jr.

DEPARTMENT OF GEOLOGY:

George P. Merrill, Head Curator.

Division of Physical and Chemical Geology (Systematic and Applied):

George P. Merrill, Curator; James C. Martin, Assistant Curator.

Division of Mineralogy and Petrology: F. W. Clarke, Honorary Curator;

Edgar T. Wherry, Assistant Curator; Douglas B. Sterrett, Custodian of Gems and Precious Stones.

Division of Paleontology: R. S. Bassler, Curator.

Section of Invertebrate Paleontology: T. W. Stanton, Custodian of Mesozoic Collection; William H. Dall, Associate Curator of Cenozoic Collection; T. Wayland Vaughan, Custodian of Madreporarian Corals.

Section of Vertebrate Paleontology: James W. Gidley, Assistant Curator of Fossil Mammals; Charles W. Gilmore, Assistant Curator of Fossil Reptiles.

Section of Paleobotany: David White, Associate Curator; F. H. Knowlton, Custodian of Mesozoic Plants.

Associates in Paleontology: Frank Springer, E. O. Ulrich.

DIVISION OF TEXTILES:

Frederick L. Lewton, Curator.

Section of Wood Technology; George de S. Canavaro, Assistant Curator.

DIVISION OF MINERAL TECHNOLOGY:

Chester G. Gilbert, Curator; C. W. Mitman, Aid.

NATIONAL GALLERY OF ART:

William H. Holmes, Curator.

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LIST OF ACCESSIONS TO THE COLLECTIONS DURING THE FISCAL YEAR 1914-1915.

[Except when otherwise indicated, the specimens were presented, or were transferred by
bureaus of the Government in accordance with law.]

ABBOTT, Miss GERTRUDE, Philadelphia, Pa.: Skull of a Norwegian red deer (57639).

ABBOTT, Dr. W. L.: About 225 mammals, 14 birds, a shell, snake, and 3 ethnological specimens, from Kashmir (57237); about 272 mammals, 270 birds, 29 fishes, 30 marine invertebrates, 100 reptiles, and 22 ethnological specimens, collected by Mr. H. C. Raven in Dutch East Borneo (57327; 57458); 11 mammals from Kashmir and Norway (57866).

ABERCROMBIE, Miss. (See under Mrs. Thomas Hamilton Wilson.)

ADAMS, Prof. CHARLES C., New York State College of Forestry, Syracuse, N. Y.: Collection of fresh-water mollusks of the genus *Io*, embracing the types and other specimens upon which the donor's paper upon this genus, published by the National Academy of Sciences, is based (57271).

ADDISON, A. D., Washington, D. C.: A hornet's nest showing blue stripe, due to use of blue paper in making the nest (58238).

ADELAIDE SILK MILLS, Allentown, Pa.: Specimen of warp-printed silk showing a portion of the warp without any filling (57156).

AGRICULTURE, DEPARTMENT OF:

Bureau of Biological Survey: 123 specimens of Orthoptera, representing 28 species (57150); 50 eggs and 11 nests of birds, from Arizona (57189; 57261; 57448); 9 living specimens of Cactaceae collected by Mr. Ernest G. Holt in Arizona and

AGRICULTURE, DEPARTMENT OF—Contd.

Nevada (57206; 58383); earthworms collected by Mr. William C. Jacobsen in Modoc National Forest, Cal. (57377); 40 specimens of plants, chiefly from Wyoming, collected by Mr. Vernon Bailey and Mr. Merritt Cary (57452), 36 collected principally in Texas by Mr. Bailey (58355); 3 living specimens of Cactaceae, collected in Nevada by Mr. E. A. Goldman (57578; 57671); 83 specimens of plants collected in Arizona by Mr. Goldman (58136); skeleton of ruby-crowned kinglet, *Regulus calendula* (57673); fresh-water shells, mainly from Nevada and Utah (57991); 6 specimens of fishes (5 of *Cymatogaster aggregatus* and 1 of *Enophrys bison*), collected by Mr. W. L. McAtee at Oyster Bay, Wash., and 125 specimens of plants collected in various parts of the United States by Mr. McAtee (58100; 58122); 99 specimens of plants collected in Porto Rico by Mr. Alex. Wetmore (58122); 94 birds, osteological material, chiefly from Arizona (58221); 40 skins, 136 skulls and 4 skeletons of seals; 9 skins, 21 skulls, 1 hunter's skin and 9 alcoholic specimens of mammals, from the Old World and from southern South America (58242); 11 North American mammals (58311); earthworm from Christoval, Tex., collected by Dr. A. K. Fisher (58318); 97 Orthoptera and 139 Coccinellidæ (58363); 40 specimens of plants from Colorado, collected by Mr. S. E. Piper (58404); 88 reptiles and 30 batrachians (58483).

AGRICULTURE, DEPARTMENT OF—Contd.

Bureau of Entomology: 4 batrachians and 5 lizards, from Texas (57197); 31 vials of miscellaneous insects (57407); 200 specimens of Hymenoptera, representing about 80 species and including types of 69 species (57411), and 292 dragonflies from West Virginia, collected by Mr. R. P. Currie, received from the Branch of Forest Insect Investigations (58065); about 3,500 Diptera, 100 bred Diptera, 1,000 miscellaneous insects and 30 vials of alcoholic material, collected by Mr. R. C. Shannon in the vicinity of Washington, D. C. (57692; 57800); 221 slides of muscoid maggots and eggs, collected in 1909; 725 vials of female reproductive systems in rough, muscoid maggots and eggs (Florida and South Carolina, 1908, 1909); 117 vials of complete reproductive systems, male and female, dissected out (New England, 1914); 903 pinned muscoid flies from New England, including over 100 from which dissections have been made; all collected by Dr. C. H. T. Townsend (57894); 72 dragonflies from Chesapeake Beach, Md., and 924 from the vicinity of Washington, D. C., collected by Mr. R. P. Currie and Miss Bertha Currie; 30 dragonflies from the vicinity of Washington, collected by Mr. V. A. Roberts and Mr. H. L. Nichols (58063); 74 named European insects, sent to the Bureau by Mr. H. du Buysson of Vernet, Allier, France (58361); 1 European and 12 American specimens of Diptera, *Oscinis* sp., determined by Mr. J. M. Aldrich (58463).

Bureau of Plant Industry: 4 specimens of gums, 3 of vegetable wax and 1 of starch (57277); 11 land shells, representing 2 species, from the loess near Tchan-tcho, China (57288); 240 specimens of plants from the western part of the United States and 2 from Ciudad Juárez, Mexico, collected by Prof. E. O. Wooton (57306; 57582; 57615; 57627; 57758; 58356), 44 from Costa

AGRICULTURE, DEPARTMENT OF—Contd.

Rica (57398; 57986), 1 from Washington (57398); 2 specimens of rushes, *Juncus*, from New York (57422); 19 specimens of plants from the United States and 2 from the Canal Zone, collected by Mr. O. F. Cook (57509; 57582; 57716; 57859; 57981; 58153); 274 collected in Guatemala and British Honduras by Mr. Cook and Mr. C. B. Doyle (57509); an exhibit of waste from standardized Upland cotton, comprising samples of picker waste, card waste and No. 22's warp yarn obtained from the five standard full grades of raw Upland cotton (57544); 6,000 duplicate specimens of grasses (57588); 17 specimens of plants from New York (57716), 69 from Brazil (57728), 11 collected in Florida by Prof. S. M. Tracy (57758); 4 specimens of ferns collected in Texas by Mr. C. S. Scofield (57810); 50 specimens of plants collected in Wisconsin by Mr. C. J. Humphrey, 625 from British Columbia, Alberta, and the northwestern part of the United States, collected by Prof. A. S. Hitchcock (57868), 364 collected in Idaho by Mr. Henry J. Rust (57882); 12 specimens of thorns, *Crataegus*, from Michigan (58153); 988 specimens of plants principally from California and Idaho, 529 chiefly from Utah and 404 from Arizona, all collected by Mr. W. W. Eggleston (58160; 58181; 58272); 1,297 mounted specimens of grasses from various sources (58160); 10 living specimens of Cactaceae collected in Arizona and California by Dr. H. L. Shantz (58184); 1,100 specimens of plants collected in Colorado and California by Dr. Shantz and Mr. R. L. Piemeisel (58372), 26 collected in Utah and Arizona by Mr. L. L. Harter (58280); 9 species of land shells collected by Mr. Frank N. Meyer on mountain slopes 4,000 to 8,000 feet, near Siku, Kansu, China; also concretions of siliceous sand cemented

- AGRICULTURE, DEPARTMENT OF**—Contd.
by lime carbonate from near Sa-
repta, Saratoff Government, Rus-
sia (58358); 10 specimens of ferns
from Florida (58392).
- AGUIRRE, DR. RAFAEL TEJADA**, Guate-
mala City, Guatemala: 96 specimens
of plants from Guatemala (57706;
58098).
- AIKEN, REV. JAMES**, St. Catharines,
Berbice, British Guiana: Fish para-
sites, leeches, isopods, ostracods, a
mollusk, and drawings of a copepod
(57558).
- ALDRICH, J. M.**, Bureau of Entomology,
Washington, D. C.: 4 specimens of
Diptera, *Chatophleps setos*, from
Lafayette, Ind. (57187).
- AMERICAN FEDERATION OF ARTS**, Wash-
ington, D. C.: 23 paintings by con-
temporary foreign artists (58479:
loan for special exhibition).
- AMERICAN GRAPHOPHONE COMPANY**,
Bridgeport, Conn.: A Grafonola
Favorite equipped with electric mo-
tor and automatic stopping machine,
together with 8 double disk and 1
single disk records (58301).
- AMERICAN MILLS COMPANY OF NEW
YORK, THE**, New York City: Spec-
imens of elastic webbing (58389).
- AMERICAN MUSEUM OF NATURAL HIS-
TORY**, New York City: Skeleton of
a gray whale, received through Mr.
Roy C. Andrews (58056: purchase);
casts of a lower jaw, tooth, and 13
scutes of glyptodont, *Chlamytherium*,
by permission of Dr. E. H. Sellards,
State Geologist, Tallahassee, Fla.
(58116); 11 lantern slides illustrat-
ing fossil reptiles (58198: ex-
change); skins and skulls of 34
mammals (58227: exchange).
- AMERICAN TRIPOLI COMPANY**, Seneca,
Mo.: 14 specimens of tripoli and
tripoli products, and 6 photographs
showing mine, drying sheds, etc.
(57490).
- AMERICAN VANADIUM COMPANY**, Pitts-
burgh, Pa. (through Mr. Frank L.
Hess): A specimen of ferro-vana-
dium, made from the patronite ores
of Minasragra, Peru (58315).
- AMES, LEWIS ANNIN**, New York City:
A bronze, guest's badge of the "New
York Tercentenary" celebration
commemorating the three hundredth
anniversary of the inception of New
York City as a commercial center
(57748).
- AMOSKEAG MANUFACTURING COMPANY**,
Manchester, N. H.: A series of spec-
imens, machines and photographs
illustrating the spinning, weaving
and finishing of cotton cloth; a
series of specimens and photographs
showing the successive steps in the
manufacture of a blue serge from
raw wool; specimens illustrating the
manufacture of a Vigoreaux
worsted fabric; United States flag,
7 feet by 14 feet, made of Panama
cloth; part of a loom, consisting of
warp, harness, reed and bags, show-
ing the process of weaving seamless
bags; samples of seamless cotton
bags (57814); 53 samples of cotton,
cotton-flannel and worsted fabrics
and 9 "ready-to-wear" garments
made from the same materials
(58459).
- ANDERSON, WESLEY G.**, Principal of
Schools, Metolius, Oreg.: A small
piece of diatomaceous earth (57997).
- ANDERSON, WILLIAM, AND COMPANY**,
New York City: 11 samples of cotton
wash fabrics, including zephyr ging-
hams, percales and white dress
goods (57808).
- ANZELL, ALEXANDER A.**, New York City
(through Mr. Douglas B. Sterrett):
4 dental tools and a mixing slab
made of agate (57362).
- APOLLINAIRE-MARIE**, Brother, Instituto
de La Salle, Bogotá, Colombia: 150
specimens of plants from Colombia
(58186; 58309).
- ARMBRUSTER, RAYMOND**, Cumberland,
Md.: 4 skulls of small fossil mam-
mals (57920: exchange).
- ARMSTRONG, EUGENE**, Noti, Oreg.: 16
specimens of Labrador tea, *Ledum
columbianum*, from Oregon (57655).
- ARMSTRONG, MISS MARY G.**, Calexico,
Cal.: 8 spiders, *Eremobates* sp.
(57149; 58466).

- ARNOLD ARBORETUM, HARVARD UNIVERSITY, Jamaica Plain, Mass.: 560 specimens of plants from the United States (57877: exchange).
- ARTHUR, Dr. J. C., Agricultural Experiment Station, Purdue University, Lafayette, Ind.: Specimen of phanerogam, *Sphaeralcea*, from New Mexico (57646).
- ASBESTOS CORPORATION OF CANADA, LIMITED, Montreal, Canada: 6 specimens of asbestos (57596).
- ASBESTOS PROTECTED METAL COMPANY, Beaver Falls, Pa.: 6 specimens of asbestos (57837).
- ASCHEMEIER, CHARLES R., U. S. National Museum: 13 squirrels and 4 birds' skins, from Maryland (57341; 58099; 58148).
- ATLAS COAL COMPANY, THE, Rich Hill, Mo.: A lump of coal (58085).
- ATTWATER, H. P., Houston, Tex.: 3 birds' nests, including 1 of Bullock's oriole (*Icterus bullocki*), and 3 eggs, including 1 of the poorwill (*Phalaenoptilus nuttalli nuttalli*), all from Texas (57157; 57347; 58077; 58317).
- BACHTTEL, W. L., Milford, Utah: A specimen of opalescent agate (58377: purchase).
- BAILEY, HAROLD H., Newport News, Va.: Land shells from Giles County, Va., some of which were obtained at an altitude of 4,200 feet (57270; 58357).
- BAILEY, VERNON, Bureau of Biological Survey, Washington, D. C.: Specimens of beetle, *Peltophorus seminivus*, from flower stem of *Yucca palmeri*, Globe, Ariz. (58061).
- BAKER, B. P., Alamogordo, N. Mex.: 10 specimens of plants from New Mexico (58493).
- BAKER, Prof. C. F., University of the Philippines, Los Banos, P. I.: 16 insects (57473: loan).
- BAKER, C. H., Orlando, Fla.: 2 specimens of a tree, *Pterospermum* (58393).
- BAKER, Dr. F. H., Richmond, Victoria, Australia: Echinoid, *Goniocidaris tubaria*, dredged in the Bass Straits between Victoria and Tasmania (57315); 45 specimens of land and marine shells, representing 10 species, from Australia (57329: exchange).
- BAKER, Dr. FRED., Point Loma, Cal.: Moths, reptiles, fishes, and crustaceans, from Japan (57459; 57660); insects, fishes, crustaceans, and reptiles, from Formosa (57968; 58113).
- BALDWIN, R. L., Chadds Ford, Pa.: Specimen of unicorn plant, *Martynia louisiana*, from Pennsylvania (57437).
- BALL, C. R., Bureau of Plant Industry, Washington, D. C.: 36 specimens of plants, chiefly willows (57737).
- BALSS, Dr. H., Zoologische Sammlung des Bayerischen Staates, Munich, Germany: 2 specimens of crustacean, *Harpilius depressus* (57468).
- BALTIMORE, CITY OF (through Hon. James H. Preston, mayor): Commemorative tablet medal, designed and made by Hans Schuler, in recognition of the transfer of Fort McHenry from the Government of the United States to the City of Baltimore, under Act of Congress approved by the President May 27, 1914 (57518); bronze medal, designed and made by Hans Schuler, commemorative of the Star Spangled Banner Centennial Celebration. Baltimore, September 6 to 13, 1914 (57586).
- BANKS, NATHAN, Bureau of Entomology, Washington, D. C.: About 90 named ants from Australia (58058).
- BANTA, Dr. A. M., Cold Spring Harbor, Long Island, N. Y.: 2 specimens of salamander from New York (58018).
- BARBER, H. S., Bureau of Entomology, Washington, D. C.: 2 specimens of mole, *Scalopus aquaticus*, from Plummer's Island, Md. (57342).

- BARBOUR, Dr. THOMAS**, Museum of Comparative Zoölogy, Cambridge, Mass.: A rare lizard, *Cricosaura typica*, from Cuba (57742).
- BARNES, GEO. E.**, Washington, D. C.: 127 crustaceans from a small pool near Chain Bridge, Md. (58190).
- BARNETT, V. H.**, Washington, D. C.: Skull of an otter, from China (58273).
- BARTELS, J. M., COMPANY**, New York City: 42 United States stamped envelopes and postage stamps of Cuba (58125); 7 United States stamped envelopes and 10 Canal Zone stamps (58509). Exchange.
- BARTLETT, PAUL W.**, Washington, D. C.: Original model, in plaster, of the bronze equestrian statue of Lafayette, erected in the Square of the Louvre, Paris, France, by the school children of the United States, 1900; Paul W. Bartlett, sculptor (57392).
- BARTOLO, ANTHONY DI**, Washington, D. C.: Geological material from north-eastern Sicily (57185).
- BARTSCH, PAUL**, U. S. National Museum: Leopard skin, *Felis pardus*, from Ceylon (57387). (See under John B. Henderson.)
- BATES MANUFACTURING COMPANY**, Lewiston, Me.: 8 samples of cotton crêpe dress goods (57847).
- BEALS, Mrs. W. G.**, Lake Valley, N. Mex.: 244 specimens of plants from New Mexico (57400; 57423; 57890; 57969; 58048; 58450).
- BEAN, Prof. R. B.**, Medical School, Tulane University, New Orleans, La.: Anatomical specimens (57220).
- BECK, JOHN S.**, Washington, D. C.: Portrait of George Washington, attributed to Charles Willson Peale (57236: loan).
- BELL, Dr. ALEXANDER GRAHAM**, Washington, D. C.: Desk telephone set, 1877; Dr. Bell's official pass to the Centennial Exhibition, Philadelphia, 1876; ticket of admission to his lectures on telephony (57371); experimental phonographic and graphophonic apparatus (57694; 58498).
- BELL, Sir H. HESKETH J.**, Governor, Leeward Islands, Antigua, British West Indies (through Dr. T. Wayland Vaughan): 3 samples of green rock from Antigua (57744).
- BEMENT, CLARENCE S.**, Philadelphia, Pa. (through Dr. F. W. Clarke, Washington, D. C.): A slice from the Willamette meteorite, weighing 1,954 grams, and 3 specimens of minerals (2 phenacites and 1 tarbutite) (58246).
- BENJAMIN, Dr. MARCUS**, U. S. National Museum: A reduced facsimile of the official medal recently issued by the New York Tercentenary Commission commemorating the Commercial Tercentenary of New York, 1614-1914 (57732).
- BENNETT, A.**, Croydon, England: Photograph of a new species of pondweed, *Potamogeton* (58486: exchange).
- BENNETT AND ASPDEN COMPANY**, Manayunk, Philadelphia, Pa. (through Mr. W. E. Rosenthal, New York City): 2 samples of fabrics manufactured from ramie (57723).
- BENNETT, Dr. O. J.**, Pittsburgh, Pa. (through Mr. W. F. Dismer, Washington, D. C.): Homing pigeon "Old Bob" (57614).
- BENT, A. C.**, Taunton, Mass.: 14 bird skins from Alaska and Manitoba (57676).
- BERGROTH, Dr. E.**, Turtola, Finland, Russia: 40 specimens of parasitic Hymenoptera (57141).
- BERT, WALTER L.**, Baltimore, Md.: Original appointment of Hugo Fulda as drum major of the Fifth Regiment, Maryland Volunteers in the service of the United States, dated May 8, 1862; also a Colt's revolver (57326).
- BERWIND-WHITE COAL MINING COMPANY**, Philadelphia, Pa.: Lump of coal (58082).
- BEST & JACOBY**, New York City: 3 specimens of silk ribbons manufactured from artificial silk and cotton (58322).

- BETHEL, Prof. ELLSWORTH, Denver, Colo.: 3 specimens of ferns from Colorado (57320).
- BEUTENMÜLLER, WILLIAM, New York City: 8 cotypes of gallfly, *Rhodites californicus* (57799).
- BEZZI, Prof. Dr. M., Turin, Italy: 86 named adults of European, African, Indian and Philippine muscoid flies, together with pupæ of three species (58062: exchange).
- BIRD, HENRY, Rye, N. Y.: Paratype each of moths, *Papaipema humili* and *P. silphii* (58465).
- BIRDSEYE MARBLE COMPANY, Salt Lake City, Utah: 2 polished slabs of marble and 3 pieces in the rough (57539).
- BLANCHARD, C. H., Salt Lake City, Utah: Gold slide for watch guard. Presented in 1862 by Capt. (afterward Gen.) Philip Sheridan, U. S. Army, to Miss Kate E. Houghton, who later became the wife of the donor, Mr. Blanchard (57685).
- BLODGETT, Mrs. HARRIETT E., Brockport, N. Y.: 2 bedspreads, made during the early part of the 19th century (58478).
- BLOSS, Mrs. FREDERICK S., Troy, N. Y.: An oil painting (57620: loan).
- BLOSSBURG COAL COMPANY, Scranton, Pa.: A lump of coal (57908).
- BLUMENTHAL, SIDNEY, AND CO., INC., New York City: 10 specimens of cloaking and upholstery plushes (57751).
- ROBLETT, SAM, Prescott, Ariz.: Teeth of an extinct species of American Pleistocene horse (57954).
- BOERICKE, HAROLD, Vanadium, Colo. (through Mr. Frank L. Hess): Roscoelite vein and sandstone from Primos Chemical Company's mine, San Miguel County, Colo. (58316).
- BOLTON, THEODORE, Washington, D. C.: Korean horsehair hat and hatbox (57304: purchase); 11 specimens of halftones and rapid rotary intaglios from The Illustrated London News (57864).
- BONSALL, The Misses ETHEL, SARAH W., ELISABETH F. and MARY W. (through Miss Elisabeth F. Bonsall, Philadelphia, Pa.): Relics of their father, Amos Bonsall, a member of the Second Grinnell Expedition in search of Sir John Franklin, 1853-1855, under the direction of Dr. E. K. Kane (58128).
- BOONE, Miss PEARL L., U. S. National Museum: 14 species of Miocene fossils and 12 species of land and marine shells, from near Wicomico Church, Va. (57457); about 100 specimens of crustaceans, ascidians, annelids and mollusks, from the west coast of Chesapeake Bay, Northumberland County, Va. (57804).
- BORDEAUX, INTERNATIONAL MARINE EXPOSITION OF, 1907, Bordeaux, France: Diploma awarded to the U. S. National Museum in recognition of its exhibit at the Exposition (57393).
- BOYCE, A. L., New Dorp, Staten Island, N. Y.: Specimen of "robber fly," *Eraa* sp. (57180).
- BOYD, Mrs. M. E., South Hanover, Mass.: 28 kinds of modern laces (58399: loan).
- BRADLEY, WILLIAM, AND SON, Long Island City, N. Y.: 31 samples of foreign and domestic marbles (58501).
- BRANDEGEE, T. S., University of California, Berkeley, Cal.: 32 specimens of ferns from Mexico (57735); 205 specimens of plants collected in Mexico by Mr. C. A. Purpus (58217: purchase).
- BRASSEUR, CHARLES L., Orange, N. J.: 2 color-photographs on ruled-screens (58334: loan).
- BRAUN, Miss ANNETTE F., Cincinnati, Ohio: 65 Microlepidoptera, including cotypes of some new species (57895).
- BRETON, Miss ADELA C., Philadelphia, Pa.: A hand-colored engraving of a mural painting of lower part of roof (vault), south end of Inner Chamber, Temple A, Ball Court, Chichen Itza, Yucatan, Mexico (58033).

- BRIGGS, FARNHAM E.**, Minnleville, Va.: A large amethyst crystal from Prince William County, Va. (58171: exchange).
- BRIMLEY, C. S.**, Raleigh, N. C.: 2 turtles from North Carolina and 4 from Florida (57854; 57973). Purchase.
- BRIND, W. L.**, Bergenfield, N. J.: 5 specimens of pigmy sun-fish, *Elassoma zonatum* (58344).
- BRINKMAN, A. H.**, Craigmyle, Alberta, Canada: 182 specimens of Canadian mosses and liverworts (57167: purchase).
- BROADWAY, W. E.**, Belmont, Trinidad: 150 specimens of plants from Tobago (57530: purchase); 13 specimens of plants from Tobago (57530; 57645).
- BROCKETT, PAUL**, Smithsonian Institution: 97 book plates and 28 poster stamps (57999); a silver 5-1ei piece of Roumania, issued in 1906, commemorating the fortieth anniversary of the accession of Charles I (58255). Loan.
- BROCKUNIER, S. H.**, Nevada City, Cal. (through Mr. Frank L. Hess): A specimen of ferberite-bearing pegmatite from Arizona (57743).
- BROOKLYN INSTITUTE OF ARTS AND SCIENCES, CENTRAL MUSEUM**, Brooklyn, N. Y. (through Dr. Robert Cushman Murphy): 6 echinoderms, representing 4 species, from South Georgia, consisting of a type specimen of *Anasterias octoradiata*, 3 specimens of *Psolidium ? convergens*, and a specimen each of *Anasterias ? studei* and *Odontaster validus* (58507).
- BROOMHEAD, HOWARD H.**, Paris, Idaho: 2 fossil shells (58229).
- BROWN, EDWARD J.**, Los Angeles, Cal.: 4 bird skins from Falls Church, Va. (57785); 36 bird skins, 3 nests, a small series of reptiles and batrachians and a bat, from Los Angeles County (58174).
- BROWN, MRS. GLENN**, Washington, D. C.: Pair of gold and jeweled earrings bearing the initial "M," owned by Rebecca Madison, niece of President James Madison, wife of Reynolds Chapman and grandmother of Mrs. Brown. Presented to Rebecca Madison by Mrs. Mossom, wife of Rev. Mr. Mossom; also a silver spoon and silver fork made in France and owned by President Madison (58107: loan).
- BROWN, MRS. JOHN CROSBY**, New York City: A Javanese (?) musical instrument (58019).
- BROWN, Capt. JOHN NEWTON**, Nassau, Bahamas: 7 corals, including 5 specimens of *Meandrina meandrites*, 1 of *Manicina gyrosa* and 1 of *Acropora prolifera* (57258).
- BROWN, SAMUEL K.**, Los Angeles, Cal.: Skin of laughing gull, *Larus atricilla*, from Smith's Island, Va. (57784).
- BROWN, W. T. WATKINS**, Sydney, New South Wales: 20 obsidianites, obsidian bombs, or Australites, from New South Wales (58342: purchase).
- BRYAN, Maj. H. S.**, Zanesville, Ohio: Mexican silver coin, 1822 (57386: loan).
- BRYAN, Prof. WM. ALANSON**, Honolulu, Hawaii: 31 specimens of coral, representing about 30 species, collected by Mr. Carl Elschner around Fanning Island, central Pacific Ocean (58455).
- BRYAN, Hon. WILLIAM JENNINGS**, Washington, D. C.: A "Peace Treaty" paperweight (a miniature plowshare and beam), identical with those given by Mr. Bryan to the Ambassadors and Ministers who signed with him thirty treaties providing for investigation of all disputes (57778).
- BEYS, VICTOR**, Washington, D. C.: A Belgian (cover) envelope with a 40-centime stamp of 1866 attached, and with the Royal Seal on back (58042).
- BUCHANAN, Miss MARY S.**, Winchester, Va. (through Mrs. R. G. Hoes): Costume worn by Betty, daughter of

BUCHANAN, Miss MARY S.—Continued.

President Zachary Taylor, illustrative of the costumes worn at the White House during her father's administration (1849-1850), consisting of a dress and kerchief of sage-green silk grenadine with border of Scotch plaid in colors, trimmed with moss fringe, a collarette of white lace and black ribbon-velvet, a pair of black silk mitts, and a fine linen handkerchief with the name "Betty" embroidered in one corner (57687: loan).

BUCKINGHAM, Mrs. E. H., Chevy Chase, Md.: A New Zealand carved paddle (58336: loan).

BULKLEY, Hon. ROBERT J., Cleveland, Ohio: Nest of a hornet (58240).

BULL VALLEY GOLD MINES COMPANY, Salt Lake City, Utah (through Mr. Victor C. Heikes): A specimen of gold in calcite (58382).

BURKE, J. J., Cloverport, Ky.: Wheel-bug, *Arilus cristatus* (57467).

BURT, Miss ELIZABETH B., Washington, D. C.: A sextant and a surveyor's compass (58359: loan).

BUSCK, AUGUST, Bureau of Entomology, Washington, D. C.: Skull of spotted cavy, *Cuniculus*, and skin and skull of monkey, *Cebus*, from Panama (58237).

BUSCK, WILHELM. (See under George Chestnut.)

BUSH, B. F., Courtney, Mo.: 290 specimens of plants from Missouri (57140; 57960). Purchase.

BUSHNELL, Mrs. BELLE, Washington, D. C.: A porcelain match box with bust of Benjamin Franklin on the cover, from Paris, France (57850).

CALCUTTA, INDIA. (See under Indian Museum.)

CALIFORNIA ACADEMY OF SCIENCES, San Francisco, Cal.: 452 specimens of plants from California (57924; 58461). Exchange.

CALIFORNIA ASBESTOS COMPANY, San Francisco, Cal.: A 10-pound specimen of asbestos (57832).

CALIFORNIA, UNIVERSITY OF, Berkeley, Cal.: 5 specimens of plants from California (57715); fragments of 6 types of phanerogams, *Chenopodiaceae* and *Amaranthaceae* (57745); a composite skeleton and 3 skulls and lower jaws of Pleistocene dogs from the La Brea, Cal., asphalt deposit (58435). Exchange.

CALLENDER, Miss A. B., Middlebury, Vt.: 22 specimens of sedges, *Carex*, from Vermont (57956).

CAMERON, H. F., Zamboanga, P. I.: Photograph of a shark, *Rhinodon typicus*, caught in a trap on the coast of the island of Cebu (58457).

CAMERON MACHINE COMPANY, Brooklyn, N. Y.: A series of specimens showing the various kinds of materials and shapes of packages produced by the Cameron slitting and rewinding machine (58024).

CAMP, R. D., Brownsville, Tex.: Reptiles, batrachians, mammals, a mollusk and an insect, from Texas (58170; 58337).

CANADA, BIOLOGICAL BOARD OF, Pacific Coast Station, Nanaimo, British Columbia (through Mr. C. McLean Fraser): 2 specimens of crinoid, *Florometra serratissima*, collected at Nanaimo (58500).

CANADA, GEOLOGICAL SURVEY OF, Ottawa, Canada (through Dr. E. M. Kindle): 23 species of marine shells from the coast of Nova Scotia (58165).

CANAL ZONE, BOARD OF HEALTH LABORATORY, Ancon (through Dr. S. T. Darling): 9 snakes from Panama (57554).

CANFIELD, F. A., Dover, N. J.: A specimen of roepperite in weathered manganocalcite, from Sterling Hill, N. J. (57888).

CANNON, Prof. GEORGE L., Denver, Colo. (through Dr. O. P. Hay): 36 bones of Pleistocene mammals (57963).

CAPE TOWN, UNION OF SOUTH AFRICA. (See under South African Museum.)

- CARBORUNDUM COMPANY, THE, Niagara Falls, N. Y.:** Miscellaneous collection of carborundum and aloxite, and their products; also 16 photographs representing different departments in the work (57873).
- CARNEGIE INSTITUTION OF WASHINGTON:** Living specimen of cactus, *Echinocactus polyacanthus*, collected in California by Mr. S. B. Parish (57145); 12 living specimens of cactus from Tobago, West Indies, and 2 living specimens of *Selaginella*, collected in Arizona by Dr. Forrest Shreve (57574); 3,000 plants, 5 boxes of land shells, 116 invertebrate specimens, 2 mammals, a fish and 2 lizards, obtained by Dr. and Mrs. J. N. Rose in western South America (57801); 2 living specimens of giant cactus, *Carnegiea gigantea*, collected in Arizona by Dr. D. T. MacDougal (58104).
- Department of Marine Biology, Tortugas, Fla. (through Dr. Alfred G. Mayer, director):* About 1,000 specimens of corals from the Bahamas and Florida (57259); a large collection of land shells from the Bahama Islands (57269).
- CAROZZI, G. NAPOLEONE (through Mrs. Mary W. Carozzi, Portland, Oreg.):** 3 violins (57562).
- CARSON, H. M., General superintendent, Erie Division, Pennsylvania Railroad Co., Williamsport, Pa.:** A 3-part car-coupling link (57224).
- CARTWRIGHT, ALFRED, Guayaquil, Ecuador (through Frederic W. Goding, Esq., American consul general):** Collection of insects, mostly Lepidoptera (58462).
- CASE, Miss L. C., Bureau of Plant Industry, Washington, D. C.:** Amphipods and mollusks from near Tadousac, Quebec (57495).
- CASSELY, W. W., Goodyears Bar, Cal.:** Sample of asbestos (57833).
- CAWSTON OSTRICH FARM, South Pasadena, Cal.:** A collection of the various grades of raw, bleached and dyed ostrich feathers (57661).
- CENTERVILLE BLOCK COAL COMPANY, Centerville, Iowa:** One cube of coal (58521).
- CENTRAL COAL AND COKE COMPANY, Kansas City, Mo.:** Lump of coal (57913).
- CENTRAL MUSEUM, THE BROOKLYN INSTITUTE OF ARTS AND SCIENCES. (See under Brooklyn.)**
- CHACE, E. P., Los Angeles, Cal.:** Mollusks, consisting of 3 specimens of *Melampus* from Alamitos Bay, Cal., and 21 specimens of *Paphia staminea* from Anaheim Bay, Cal. (57471; 58038).
- CHACE, Mrs. E. P., Los Angeles, Cal.:** Marine shells from Anaheim Bay, Cal. (57761; 57959); specimens of *Adula styliana* from Long Beach and San Diego, Cal. (57984); 12 specimens, representing 4 species, of marine shells from the vicinity of San Pedro, Cal. (58434).
- CHADWICK, Miss JULIA HALSTED, Washington, D. C.:** 4 crucifixes and an icon, an old porcelain rice bowl with cover, and a tea set, cloisonné on porcelain (58167; loan).
- CHAFFEY, Miss M. E., El Paso, Tex.:** 6 living cacti, collected near El Paso (57146).
- CHAMBER OF COMMERCE, Deming, N. Mex. (through Dr. J. W. Fewkes):** A vertebra of a mammoth (57334).
- CHANDLER, H. P., Rio Hondo, Tex.:** 85 specimens of plants from Texas (57164; purchase).
- CHANDONNET, Rev. Z. L., Perham, Minn.:** 160 specimens of plants, chiefly *Laciniaria*, from Minnesota (57753; purchase).
- CHAPMAN, The Misses FLORENCE and MARY K., Staunton, Va. (through Miss Florence Chapman):** Gold breastpin containing a lock of President Madison's hair and inscribed "In memory of my uncle, James Madison, J. A. C.," originally owned by James Alfred Chapman, father of the lenders; pair of gold cuff buttons owned by Rev. David Mossom, who performed the marriage cere-

- CHAPMAN, The Misses FLORENCE and MARY K.—Continued.
mony of Gen. Washington, in 1759 (58108: loan).
- CHAPMAN, ROBERT H., Washington, D. C.: About 250 specimens of marine mollusks, from various localities (57730).
- CHENEY BROTHERS, South Manchester, Conn.: 7 samples of printed silks (58458).
- CHESTNUT, GEORGE, and WILHELM BUSCK, Hyattsville, Md.: 63 dragonflies from the vicinity of Hyattsville (58064).
- CHILE, EMBASSY OF, Washington, D. C. (through Señor Don Eduardo Suárez-Mujica, Ambassador extraordinary and plenipotentiary of Chile): An oil painting by Alfredo Helsby, entitled "Full Moon" (Landscape at Limache, Chile) (58508).
- CHILE, MUSEO NACIONAL DE, Santiago, Chile: 21 specimens of Cactaceae from Chile (57697: exchange).
- CHILES, Mrs. J. H., West Palm Beach, Fla.: 16 living plants, mostly Cactaceae (58114: exchange).
- CHRISTIAN, L. F., Lockhart, Tex.: Samples of alunite (?) (57494).
- CHRISTOPHERSON, E. D., Racine, Wis.: 12 lots of plankton, from the Canal Zone (57375).
- CINCINNATI ZOOLOGICAL COMPANY, Cincinnati, Ohio: Passenger pigeon, *Ectopistes migratorius* (57354).
- CLAPP, E. D., Washington, D. C.: An English silver case watch (57282).
- CLAPP, GEORGE H., Pittsburgh, Pa.: 2 species of mollusk, *Bifidaria*, from Arizona, part of type lots (57328); 2 specimens, cotypes, of mollusk, *Polygyra cohuttenensis*, from Cohutta Mountains, Ga. (57613: exchange); 15 specimens, paratypes, of mollusk, *Vitrea cryptomphala*, from Knox County, Tenn. (58235).
- CLAPP, W. F., Museum of Comparative Zoölogy, Cambridge, Mass.: 2 land shells, *Strophlops clappii*, from the Bahamas (58016).
- CLARK, A. HOWARD, Smithsonian Institution: A photograph of the commission of George Washington as Commander-in-Chief of the Continental Army (57217).
- CLARK, AUSTIN H., U. S. National Museum: 49 crinoids, consisting of 10 specimens of *Antedon petasus*, 38 of *A. bifida*, and 1 of *Ophiopholis aculeata*, from Port Erin, Isle of Man (58389).
- CLARK, B. PRESTON, Boston, Mass.: About 50 South American hawk-moths, Sphingidæ, not represented in the Museum collections (58187).
- CLARK, MISS EMILY, Hamilton, N. Y.: 22 shells from Africa (58015).
- CLARK, HERBERT E., Jaffa Gate, Jerusalem, Palestine: 12 chipped flint hand axes from the valley west of Samaria; 5 chipped flint chisels from Abou, Samaria; a chipped flint hammer from Rafaat; and a chipped flint chisel from Belt Taneh (57311).
- CLARK, Dr. HUBERT L., Museum of Comparative Zoölogy, Cambridge, Mass.: Crinoid, *Lamprometra gyges*, from Papua (58189).
- CLARK, H. WALTON, U. S. Biological Station, Fairport, Iowa: Three specimens of plants from Iowa (57497).
- CLARK, JAMES L., New York City: 102 mammal skulls, consisting of 95 specimens from Africa (more than one-half of which are large), 6 from Canada and 1 from the New York Zoo; a skin of an African mammal (57364; 57455; 58135: exchange); a young African buffalo (58460: purchase).
- CLARKE, Dr. F. W. (See under Clarence S. Bement and Foulk Jones and Sons.)
- CLARKE, Mrs. F. W., Washington, D. C.: Ivy pitcher (57231: loan).
- CLARKE, Miss GRACE OLMSTED, Washington, D. C. (through Mrs. R. G. Hoes): Apron made by Miss Derby at Salem, Mass., eighty years ago (57223: loan).

CLARKE, MORTIMER, jr., Linden, Md.: Statue of an Egyptian god (cast from a specimen in the Louvre) (57537).

CLAYTON, Dr. CHARLES F., Balkan, Ky.: Stag beetle, *Lucanus elaphus* (58513).

CLINTON COAL COMPANY, Clinton, Ind.: Lump of coal (58087).

CLOSSON, WILLIAM BAXTER PALMER, Newton, Mass.: An oil painting by himself, entitled "The Angel" (58421: loan).

CLOUGH, L., East Concord, N. H.: A specimen of triphylite from Grafton Center, N. H. (58397).

COCKERELL, Prof. T. D. A., University of Colorado, Boulder, Colo.: 5 specimens of mollusk, *Planorbis parvus*, from an altitude of 8,435 feet, Mt. Lake, Gresham, Colo. (57268); and insects as follows—78 vespoid and sphecoid Hymenoptera collected in Guatemala by Mrs. Cockerell, some of the species being undescribed; also 12 miscellaneous insects (57406); a bee, *Oeioxys angelica* (57709); 49 specimens, including 2 types and 8 cotypes (58059); types of 79 species and allotypes of 5 of these; cotypes of 2 species; an allotype of a species not represented by type; and specimens of 6 other determined species (58362).

CODWISE, Miss LOUISE SALTER, Kingston, N. Y.: Additions to "The Louise Salter Codwise Collection," as follows: Relics of the Salter and Codwise families of New Jersey and New York, both of Colonial and Revolutionary history, consisting of jewelry, silverware, and other objects (57226); 15 specimens—miscellaneous objects of art (58302); an ermine fur coat and an East Indian silk scarf owned during the period of the Civil War by Elizabeth Rogers Codwise, grandmother of the lender (58476). Loan.

COHEN, Mrs. EDWARD, Washington, D. C.: Tan satin empire gown which belonged to Mrs. Samuel Myers, of

COHEN, Mrs. EDWARD—Continued.

Richmond; bodice of painted cambric, 1830-1838, worn by Mrs. Samuel Hays Myers (58304); sampler (58305: loan); portions of costumes of the latter part of the 18th and the early part of the 19th centuries (58417: loan); pair of shoe buckles, brilliants set in silver and gold, owned during the latter part of the 18th, or the early part of the 19th, century by Mr. M. M. Myers of Richmond, Va. (58472: loan); 3 pieces of white lace (58475).

COLLINS, F. S., North Eastham, Mass.: 50 specimens of algae from North America, Phycotheca Boreali-Americana, Fascicle XL (57281); 50 specimens of lichens, Phycotheca Boreali-Americana, Fascicle XLI (58371). Purchase.

COLMAN, H. F., Washington, D. C.: 105 Canal Zone and 9 Philippine Island postage stamps (57356: exchange); 146 United States stamps, issues of 1869, 1902, 1908, 1910, 1912 and 1913; and 22 Philippine Island stamps (57519: exchange); 530 British Colonial 20th century stamps (57700: exchange); 346 foreign stamps (57764: exchange); 51 United States stamps (57765: exchange); 102 foreign and United States stamps (57929: exchange); 4 Canal Zone stamps, a new issue in commemoration of the opening of the Panama Canal, 1, 2, 5 and 10 centesimos values; and a Samoan envelope, 20 pfennigs, surcharged "2½ d. G. R. I." (58102).

COMMERCE, DEPARTMENT OF:

Bureau of Fisheries: Rag fish, *Zaprora silenus*, taken in the Pacific Ocean, by Capt. Andrew Welding, and a specimen of lump fish, *Cyclopterus lumpus*, taken by Mr. E. L. Wilson in Chesapeake Bay (57272); young albino diamond-back terrapin, *Malaclemmys centrata*, from Beaufort, N. C. (57291); 4 boat models—mackerel seining steamer, *Alice M. Jacobs*; Grand Banks schooner, *John J. Flaherty*; New England mackerel

COMMERCE, DEPARTMENT OF—Contd.

schooner, *Senator Gardner*; and Columbia River fishing boat (57316); 30 crustaceans (57367); 767 clypeastroid sea-urchins, from the *Albatross* cruises of 1887, 1902, and 1906, reported on by Dr. Hubert Lyman Clark in the Memoirs of the Museum of Comparative Zoölogy (57373); type of lizard, *Callisaurus ventralis myurus*, collected by Prof. J. O. Snyder and Mr. C. H. Richardson in Nevada (57465); type specimen of razor-back sucker, *Xyrauchen uncompahgre* (57487); 2 turtles, *Thalassochelys kempii*, from Beaufort, N. C. (57543); Asterolidea from the *Albatross* cruises in 1891 and 1890-1900, under direction of A. Agassiz, and reported on by Dr. H. Ludwig in Memoirs of the Museum of Comparative Zoölogy (57551); 17 bottles of small fishes collected by Mr. W. V. King, Tulane University, New Orleans, from various places in Louisiana (57572); 32 bottles and vials of plankton, collected by the schooner *Grampus*; invertebrates, rocks and fishes, collected by Mr. G. Dallas Hanna at St. George Island, Alaska, in 1914; a collection of fossils made by Mr. A. G. Whitney at St. Paul Island, Alaska, in 1913 (57592); mollusks, crustaceans, worms (including helminths), fungi, mosses, lichens, liverworts and flowering plants, from St. Paul Island, collected by Mr. Whitney in 1912-1914 (57607); 500 specimens of algae from Beaufort, N. C. (57630); collection of crinoids from the Philippine expedition of the *Albatross*, 1907-1910, reported on by Mr. Austin Hobart Clark (57656); crustaceans from Beaufort, N. C., collected by Dr. W. P. Hay (57805); 9 winkle spawns from Woods Hole, Mass., collected by Mr. V. N. Edwards (57870); 172 skulls of fur seals from the Pribilof Islands (57947); crustaceans from San Francisco Bay, Cal. (57998); 2 boxes and a tank of miscellaneous invertebrates, 165 plants, etc., collected by the *Alba-*

COMMERCE, DEPARTMENT OF—Contd.

tross while engaged in a survey of San Francisco Bay and of the halibut banks off Washington and Oregon during 1914 (58092); skins of 2 sealions from the Pribilof Islands (58264); the first series of pteropods and some cephalopods, collected by the steamer *Grampus* in 1914 (58267); mollusks consisting of specimens of *Succinea* and *Pisidium*, collected on St. Paul Island, Alaska, by Mr. G. Dallas Hanna (58281; 58499); about 150 specimens of parasitic copepods, received through Dr. Charles B. Wilson (58413); 67 type specimens of Philippine fishes (58447); 275 specimens of medusæ, a part of the first series of this group collected by the Coast Survey steamer *Bache* in 1913-1914 and identified by Dr. H. B. Bigelow (58510).

Coast and Geodetic Survey: Ashes probably from Pavlof Volcano, Alaska (57432); collection of historical surveying apparatus (57456); 6 gold pocket chronometers and 1 gold watch (57657).

COMPARATIVE ZOÖLOGY, MUSEUM OF.
(See under Harvard University.)

CONSOLIDATED INDIANA COAL COMPANY, Chicago, Ill.: 2 specimens of coal (57912).

CONSOLIDATION COAL COMPANY, THE, Baltimore, Md.: A 12-inch lump of coal from Somerset, Pa., and a 200-pound specimen from Elkhorn, Ky. (57904).

CONTEE, Miss LUCY, Washington, D. C.: Snake, *Natrix sipedon*, from the District of Columbia (58444).

CONTINENTAL GIN COMPANY, Birmingham, Ala.: One hand saw gin, feeder and condenser (58014).

CONTREREVILLE MANUFACTURING COMPANY, Manville, R. I.: 11 samples of cotton plushes, plain and printed (57317).

COOK, Mrs. O. F., Lanham, Md.: About 8,000 specimens of plants from the Canary Islands (57290).

- COOKE, DR. C. WYTHE, U. S. Geological Survey, Washington, D. C.: 2 specimens of gypsum, crystallized, from Choctaw County, Ala. (57824).
- COOLIDGE, Miss HELEN E., Washington, D. C. (through Mrs. Julian James): Collection of old fashion-plates (58407); Madelra lace shawl (58526).
- COOPER, DR. ARTHUR BIRKHEAD, Washington, D. C.: Part of a Chiton from Ecuador (57345).
- COOPER, R. M., Waco, Tex. (through Dr. O. P. Hay): Portion of the lower jaw of a young elephant, with one tooth, from Waco (57766).
- COPENHAGEN, DENMARK, KÖNIGL. VETERINÆR OG LANDBO-HØISKOLE (through Mr. H. O. Schmit-Jensen): A phasmid in which mutilated antennæ are reproduced as a leg (57547).
- COPENHAGEN, DENMARK, UNIVERSITETETS BOTANISKE MUSEUM: Fragment of the type collection of a fern, *Anogramme biardii* (57507: exchange).
- COPENHAGEN, DENMARK, UNIVERSITETETS ZOOLOGISKE MUSEUM: Lantern fish, *Rhinoscopelus andrewæ* (57792: exchange).
- COPP, HENRY NORRIS (through Mrs. Mary H. Copp, Washington, D. C.): An English verge watch, a flip-iron and a Civil War cavalry sword (57383).
- CORBETT, G. H., and E. HARGREAVES, Bureau of Entomology, Washington, D. C.: Holotype of insect, *Vulturops floridensis* (58345).
- CORSE, Mrs. JOHN M., Boston, Mass.: Dress worn by Mrs. Franklin Pierce at the inauguration of March 4, 1853 (57849: loan).
- COSENS, DR. A., Toronto, Ontario, Canada: 7 adult sawflies and 2 saw-fly galls (57154).
- COVILLE, FREDERICK V., Bureau of Plant Industry, Washington, D. C.: 15 specimens of blueberries, *Vaccinium*, from Maryland and Virginia (58007).
- COX, WILLIAM V., Washington, D. C.: Baltimore oriole, *Icterus galbula* (58398).
- CRAWFORD, EARL STETSON. (See under National Association of Portrait Painters.)
- CRAWFORD, J. C., U. S. National Museum: About 100 Diptera and 900 Hymenoptera, from the vicinity of Washington, D. C. (most of the Hymenoptera are Apoidea with flower records) (57476); 16 specimens of plants from Maryland (57506); small gold ornament, human figure, dug from a grave at Escazu, Costa Rica (58489: loan).
- CUNNINGHAM, A. C., U. S. Naval Engineer, U. S. Naval Training Station, Great Lakes, Ill.: Cadet midshipman's full-dress jacket worn by the donor in 1879 when graduated from the U. S. Naval Academy, Annapolis, Md.; also 2 uniform caps of the same period, and a midshipman's special full-dress coat worn subsequent to his graduation (57701).
- CURL, DR. HOLTON C., U. S. Navy, U. S. Naval Hospital, Mare Island, Cal.: 10 skulls and sterna of Philippine birds (57553).
- CURRIE, R. P., Bureau of Entomology, Washington, D. C.: 3 salamanders from Browning Lake, Md. (57264).
- CUSHING, Prof. H. P., Adelbert College, Cleveland, Ohio: 6 specimens (topotypes) of the brachiopod *Syringothyris textus chemungensis* (57795).
- CUSTER, CLARENCE C., Balboa, Canal Zone: Skin of flycatcher, *Elania chiriquensis*, from Panama (58090).
- CUTLER, WILLIAM E., Calgary, Alberta, Canada: Tooth and patella of a fossil horse from Alberta (58004).

- CUTTER, V. M., Puerto Barrios, Guatemala (through Mr. Julius Hurter, sr., St. Louis, Mo.): 2 turtles from Guatemala (57552).
- DALE, Dr. T. NELSON. (See under Ross and Republic Marble Company.)
- DALE, WILLIAM M., Vice-president, Dutton Phosphate Company, Gainesville, Fla. (through Dr. O. P. Hay): Part of the upper jaw, with 3 teeth, of fossil horse, *Hipparion plicatile* (58243).
- DALL, Dr. WILLIAM H., U. S. National Museum: Skull of *Marmota* (57625); a fossil fish probably from Connecticut (58428).
- DA ROCHA, FRANCISCO DIAS, Museu Rocha, Ceará, Brazil: 7 species of marine mollusks, 13 specimens of fresh-water mollusks and 4 valves of pearly fresh-water shells, from Brazil (57333; 57617; 57992).
- DAVID, C. K., Baton Rouge, La. (through Hon. Lewis L. Morgan): Receipt dated 1867, issued to Mrs. S. David for transfer of interest in Federal cotton taxes (57731).
- DAVIDSON, Dr. A., Los Angeles, Cal.: 4 specimens of phanerogams, Chenopodiaceae, from California (57654).
- DAVIE, Mrs. HARRY, San Diego, Cal.: 3 specimens of mollusk, *Mopalia*, from kelp roots in San Diego County (58031; 58298).
- DAVISS COUNTY COAL COMPANY, THE, Washington, Ind.: Lump of coal (58086).
- DAVIS, CHARLES A., Bureau of Mines, Washington, D. C.: Specimen of organic conglomerate from Pemaquid Beach, Me. (57797).
- DAVIS, E. S., Linden, Md.: Skin of a black gray squirrel (57295).
- DAVISON, D. B., Hachita, N. Mex.: 2 specimens of bismutite (58215).
- DAY, Mrs. ARTHUR L., Washington, D. C.: An emergency passport issued by the Consulate General of the United States at Frankfort-on-the-
- DAY, Mrs. ARTHUR L.—Continued.
Main, September 1, 1914, to Mrs. Day and her four children, for use in returning to the United States (57477).
- DEAM, CHARLES C., Bluffton, Ind.: 53 specimens of plants from Indiana (58188).
- DEANE, WALTER, Cambridge, Mass.: 104 specimens of plants from the northeastern part of the United States (58294). (See under J. N. Rose.)
- DECKERT, RICHARD, New York City: 3 African frogs (57286).
- DECORUS MANUFACTURING COMPANY, THE, New York City: Alograph machine for decorating fabrics—the first imported for use in the United States (57668). (See under T. H. McCool and Company.)
- DELAN, Dr. D. BRYSON, New York City: A photograph of the members of the American Laryngological Association during the first ten years of the existence of that society, with printed list of the members (57228).
- DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY, THE, Scranton, Pa.: A 10-inch sample of coal (57874).
- DENIS, FELIX E., Washington, D. C.: An old, oriental matchlock gun (58349).
- DENNIS, L. B., Norwalk, Ohio: United States cavalry spur presented to the donor by Brig. Gen. John Sedgwick and used by him while on duty with Gen. Sedgwick in the military telegraph service in Virginia, West Virginia and Kentucky during the Civil War (58130).
- DENSMORE, Miss FRANCES, Bureau of American Ethnology: Collection of ethnologica of the Ute Indians of the Uintah and Ouray Reservation, northeastern Utah, consisting of musical instruments and household and miscellaneous articles, collected by Miss Densmore during the summer of 1914 (58370: purchase).

- DENYS, Rev. F. WARD**, Washington, D. C.: An oil painting by Frank Duveneck, entitled "Water Carriers—Venice," 1884 (57941); 3 paintings in oil, namely, "Mrs. Hawkins and Family," by Sir William Beechey; "Lady and Two Children," by G. F. Watts, and "Rome and the Campagna," by Richard Wilson (58256). Loan.
- DERMOND, Mrs. L. S.**, Eckley, Colo.: Beetle, *Phanoxus cornifex* (57513).
- DEXTER YARN COMPANY**, Pawtucket, R. I.: Specimens of cotton threads for mending, embroidering, knitting and crocheting (58010).
- DICKEY, W. A.**, Seattle, Wash., (and others) (through Col. W. P. Richardson, U. S. Army): An oil painting by Sydney M. Laurence, "The Top of the Continent, Mt. McKinley, Alaska" (58012: loan).
- DILLON, FRANK**, McPherson, Kans. (through Dr. O. P. Hay): Tooth of a mastodon (58005).
- DINESEN, G.**, Copenhagen, Denmark: 6 bird skins from Iceland and Greenland (57869: purchase).
- DISBROW, Dr. W. S.**, Newark, N. J.: 10 specimens of minerals (57570); a specimen of phosphuranylite on cyrtolite, from Mitchell County, N. C. (57719); 32 specimens of rhodonite from Franklin Furnace, N. J. (58331: exchange).
- DISMER, W. F.** (See under O. J. Bennett.)
- DODDS, Prof. G. S.**, University of Missouri, Columbia, Mo.: Crustaceans, consisting of types and specimens of *Streptocephalus coloradensis* and *Diaptomus arapahoensis*, from Colorado (57987).
- DODGE, Mrs. ELIZABETH A.**, Washington, D. C.: 2 revolver models (57382).
- DOUD, HUGH**, Gilroy, Cal.: Hoary bat, *Nycteris cinerea* (58249).
- DOW, MAURICE B.**, Jonesport, Me.: Spider crab, *Lithodes maia*, from off the coast of Jonesport (57619).
- DOWLING, Dr. THOMAS**, Washington, D. C.: Iron car-coupling link and pin, found near Bowie, Md. (58527: loan).
- DÜMMER, R. A.**, Kipayo, Kampala, Uganda: 200 specimens of plants from Uganda (58139: purchase).
- DUNN, EMMETT REID**, Haverford, Pa.: Bat, *Nycteris borealis*, meadow mouse, *Microtus pennsylvanicus*, and a marmot, *Marmota monax*, all from Midway Mills, Va. (57433).
- DUNNINGTON, R. L.**, Tennallytown, D. C.: Salamander, *Ambystoma maculatum*, from the District of Columbia (58028).
- DUPLAN SILK COMPANY**, New York City: 7 samples of figured novelty silks (58368).
- DUREN, GEORGE B., & SONS**, New York City: 12 samples of cotton fabrics, consisting of dress goods, draperies and napkins (58452).
- DYER, Mrs. LILLY R.**, Washington, D. C.: 29 ethnological specimens, consisting of basketry, pottery, a bow and arrows, etc., of the North American Indians (58070: loan).
- EASTMAN KODAK COMPANY**, Rochester, N. Y.: An autographic kodak, No. 3A (57325).
- EASTMOND, JOSEPH**, Salt Lake City, Utah: A sample of allophane from Utah (57536).
- EGGLESTON, W. W.**, Bureau of Plant Industry, Washington, D. C.: 28 specimens of hawthorns, *Crataegus* (57628).
- EISEMAN, SAMUEL, AND COMPANY**, New York City: Samples of silk and silk and cotton dress goods and shirtings (58159).
- ELKINS, Mrs. STEPHEN B.**, Washington, D. C.: A calling costume worn by Mrs. Elkins (57642: loan).
- ELLIS, Miss CHARLOTTE C.**, State College, N. Mex.: 350 specimens of plants from New Mexico (57957: purchase).
- EMBEE COMPANY**, Washington, D. C.: 2 specimens of pitchblende (57879: purchase).

- EMERSON, Prof. B. K., Amherst College, Amherst, Mass.: Specimens of early Silurian limestone with ostracods, from Arctic America, and fossil corals from Asia Minor (57184: exchange).
- ENGELHARDT, GEORGE P., The Central Museum, Brooklyn, N. Y.: 10 isopods from New Providence, Bahamas (57841).
- EPFES, Miss J. D., City Point, Va.: Specimen of heath, *Erica cinerea*, from England (57867).
- ESKIDGE, JAMES P., Silliman Institute, Dumaguete, P. I.: Several hundred Philippine butterflies and moths (57238).
- EUSTIS, GEORGE, Washington, D. C.: 2 rolls of wafer bread from the pueblo of Walpi, northeast Arizona (58326).
- EUSTIS, Mr. and Mrs. GEORGE, Washington, D. C.: Pair of Chinese lady's shoes (58327).
- EVANS, A. T., University of Colorado, Boulder, Colo.: Reptiles and batrachians, from Michigan (57606).
- EVANS MARBLE COMPANY, Knoxville, Tenn.: 2 slabs of Tennessee marble (57571).
- EVANS, WILLIAM T., New York City: 4 paintings in oil, namely, "Moonrise at Ogunquit," by H. Hobart Nichols (57370), Portrait of Mrs. Evans and Son, by Henry Oliver Walker, Portrait of William T. Evans, by Wyatt Eaton, and Portrait of Wyatt Eaton, by J. Alden Weir; and a bronze portrait bust of William T. Evans, by J. Scott Hartley (58175).
- EXPOSITION, INTERNATIONAL MARINE, AT BORDEAUX, 1907. (See under Bordeaux.)
- FAIRBANKS, Hon. CHARLES WARREN, Indianapolis, Ind.: Dress worn by Mrs. Fairbanks, wife of the Vice President, at the inaugural ball, March 4, 1905 (57213).
- FAIRVIEW FLUORSPAR AND LEAD COMPANY, Golconda, Ill.: 3 specimens of fluorite (57534).
- FAUNTLEROY, Miss JULIET, Lynch Station, Va.: 54 specimens of plants from Virginia (57424; 57573).
- FELLOWS, Dr. DANA W., Portland, Me.: 395 specimens of plants from Maine and Vermont (57862).
- FELT AND TABRANT MANUFACTURING COMPANY, Chicago, Ill.: Comptometer (57775).
- FERRISS, JAMES H., Joliet, Ill.: 2 snakes (58144).
- FEWKES, Dr. J. W. (See under Chamber of Commerce, Deming, N. Mex.)
- FIELD, MARSHALL, AND COMPANY, Chicago, Ill.: 16 specimens of printed cotton draperies; 7 photographs illustrating the process of engraving copper rollers for printing fabrics; 16 half-tone pictures showing the principal steps in the printing of drapery fabrics; portfolio of samples and suggestions for interior decoration (58323).
- FIELD MUSEUM OF NATURAL HISTORY, Chicago, Ill.: 20 photographs of Melanesian Negroes (57548); photograph of a specimen of phanerogam, *Solanum*, from California (57580: exchange).
- FIRTH CARPET COMPANY, THE, Firthcliffe, N. Y.: One small rug each of seamless Scotch chenille, Axminster and tapestry-Brussels, and a specimen of tapestry-Brussels carpet, a portion of which is unraveled showing the warp threads printed with the design (57722).
- FISHER, Dr. A. K., Bureau of Biological Survey, Washington, D. C.: 6 specimens of plants from the vicinity of Washington (58119).
- FISHER, GEORGE L., Houston, Tex.: 106 specimens of plants chiefly from Texas (57629; 57672).
- FITZWATER, C., Nokesville, Va.: A sandstone concretion (58067).
- FLINT, Dr. JAMES M., U. S. Navy (retired), Washington, D. C.: A set of microscopic apparatus, including two microscopes with certain appliances and two sets of microscopic slides arranged in the form of an endless band (57390).

- FLORIDA STATE GEOLOGICAL SURVEY, Tallahassee, Fla.: 29 specimens of plants collected in Florida by Mr. R. M. Harper (57451; 57754). Exchange.
- FOLSOM, Dr. J. W., University of Illinois, Urbana, Ill.: Cotypes of 9 species and determined material of 12 other species of springtails, *Collembola* (57887).
- FOOTE MINERAL COMPANY, Philadelphia, Pa.: A 201-gram specimen of the Ensishelm meteoric stone, and a 17-gram specimen of the Hainholz stone (58445: purchase); photographs of meteorites (58446).
- FÖRSTER, Prof. F., Oberkirch, Baden, Germany: Specimen of rat, *Hyomys meeki*, from New Guinea (57950: purchase).
- FORWOOD, Brig. Gen. WILLIAM H., U. S. Army (through Mr. John H. Zabel, executor, Washington, D. C.): A collection comprising about 500 specimens of minerals and cut stones (58426: bequest).
- FOSTER, A. S., Seattle, Wash.: 192 specimens of cryptogams from Washington, British Columbia and Alaska (57988).
- FOSTER, EDWARD E., Detroit, Mich.: A Lincoln campaign badge (57538).
- FOSTER, J. H., Brookneal, Va.: A quartz crystal from the vicinity of Brookneal (58143).
- FOSTER, Mrs. JOHN W., Washington, D. C.: A dress worn by Mrs. Foster while her husband, the Hon. John W. Foster, was ambassador on a special mission to Russia in 1897 (57591: loan).
- FOX HOMER S., South Pasadena, Cal.: 2 rosettes of duck feathers found inside of an old pillow (57638).
- FRANKLAND, Dr. W. ASHBY, Washington, D. C.: Nest of the purse-web spider, together with the adult spider belonging to it, collected in the vicinity of Washington by Mr. John Allen (58272).
- FRENCH, P. W., AND COMPANY, New York City: 6 tapestries of the 17th and 18th centuries (58176: loan for special exhibition).
- FRIERSON, L. S., Frierson, La.: 4 specimens of mollusk, *Lampsilis pleasii* (57337); 3 specimens (cotypes) of mollusk, *Fusconaia selecta*, from the Cache River, Craighead County, Ark. (57713).
- GAILLARD, Mrs. DAVID DuBOSE, New York City: Hupa (?) Indian basket, from Eel River, Cal.; basket from island of Attu, Aleutian Group, Alaska; a Roman Catholic ritual and its book-rest, from Colombia, South America; and 11 woven bags made by the San Blas Indians, Republic of Panama (57851); pink baby dress (1860), worn by Col. David DuBose Gaillard; dress and stockings worn by Mrs. Edward Gendron Palmer of South Carolina, grand aunt of Mrs. Gaillard, at a ball given in honor of the Marquis de Lafayette at Columbia in 1824, upon the occasion of his return to America; beaded purse made and owned by Dorcas Richardson, wife of Col. Richard Richardson of the Revolutionary Army, and great-great-grandmother of Col. Gaillard; a Cuban pocket-knife; a cribbage-board made of a walrus tusk, Eskimo; and a gold-headed cane inscribed "From log found during excavations for lower lock, Gatun, C. Z., Dec. 1910, 64 ft. below surface of ground. D. D. Gaillard Mem. Isth. Canal Com." (58202). Loan.
- GALLAHER, Miss L. BERNIE, U. S. National Museum: 6 flash-light photographs of the interior of the Franciscan Monastery at Brookland, D. C., taken by the donor (57227).
- GANNETT, Mrs. HENRY, Washington, D. C.: 25 ethnological specimens of America and the Philippine Islands (57442: purchase); 2 Filipino hats (57652).
- GARDINER, Prof. J. STANLEY, Zoological Laboratory, University of Cambridge, Cambridge, England: 29

- GARDINER, Prof. J. STANLEY—Contd.
specimens, comprising 21 species, of corals (58380: exchange).
- GARLAND, T. M., Ruby, Alaska: Hoof bone of an extinct species of horse (57462).
- GARRETT, JUDGE, Toms Creek, Va.: Specimen of fossil plant, *Stigillaria*, from Toms Creek (57796).
- GASKELL, Mrs. E. B., Hickory, N. C.: African parrot, *Poicephalus meyeri* (58035).
- GAUB, JOHN, Washington, D. C.: A bottle of water and sediment containing 3 specimens of amphipods (58505).
- GEE, Prof. N. GIST, Soochow University, Soochow, China: A collection of insects (57653); beetles (yang dzong), used by the Chinese as a cure for internal wounds (58477).
- GEIMAN, Mrs. J. A., Washington, D. C.: Beetle, *Dynastes tityus*, from Berryville, Va. (57409).
- GEISSE, WILLIAM, Illapel, Chile: 9 specimens of plants from Chile (57670).
- GELMAN, CARL, Portland, Oreg.: Specimen of ground beetle, *Nomius pygmaeus* (57478).
- GEORGETOWN GAS LIGHT COMPANY, Georgetown, D. C.: 25 specimens of gas house coke (57834).
- GEORGIA MARBLE COMPANY, THE, Tate, Ga.: 4 slabs of marble (57662).
- GIDLEY, J. W., U. S. National Museum: Skull of a deer from South Dakota (57528); a fossil egg from the Miocene of South Dakota (58212).
- GILBERT, J. Z., Los Angeles, Cal.: The type of a new fossil crab from California (57979).
- GILBERT, Mrs. NEWTON W., Manila, P. I. (through Miss Frances Morris, New York City): 46 ancient and recent pieces of Philippine embroideries on piña cloth (57427: loan).
- GILL, DE LANCEY, Bureau of American Ethnology: 33 arrow points from St. Clements Bay, St. Marys County, Md., collected by the donor (57964).
- GILLET, Mrs. ALFRED S., Washington, D. C.: 2 pictures done in embroidery and water color during the early part of the 19th century (57852).
- GODING, FREDERIC W., American consul general, Guayaquil, Ecuador (through Department of State): Plaster cast of a stone bearing possible hieroglyphics from Ecuador, made by the present owner of the stone, Mr. O. von Buchwald (58131); 30 insects and 2 scorpions, from Ecuador (58365).
- GOLDSBOROUGH, Mrs. MARY F. C., Washington, D. C.: An oil painting "The Old Mill," attributed to Hobema (58525: loan).
- GOODALL WORSTED COMPANY, Sanford, Me.: 30 specimens of wash suiting, Palm Beach cloth (58384).
- GRADY, S. A., Grand Junction, Colo.: 3 specimens of mica, with a total weight of 36 pounds (58204).
- GRANT, Maj. Gen. FREDERICK D. (through Mrs. Frederick D. Grant): A silver locket inscribed "J. D. G.," containing a lock of the hair of Julia D. Grant, and a gold one containing two locks of the hair of Gen. Ulysses S. Grant (57779).
- GRANT, Mrs. FREDERICK D., Washington, D. C.: A gold locket containing a lock of hair of Maj. Gen. Frederick D. Grant (57780).
- GRAVES, Miss LUCY M., Alexandria, Va.: A proclamation of President Andrew Jackson, dated December 10, 1832, and printed on silk (58423).
- GRAY, Mr. and Mrs. ARTHUR W., Washington, D. C.: Sandalwood casket inlaid with silver, ivory and ebony, from British India; miniature portrait mounted in gold as a pendant, with hair and monogram in the back (58286: loan).
- GRAY, FRED W., Alderson, W. Va.: A fragment of glazed Indian pottery from North Carolina (57865).
- GREEN, JAMES A., Cincinnati, Ohio: An iron tomahawk of colonial times, found on an island in Stony Lake, Kawartha group, Ontario (57681).

- GREENE, Dr. EDWARD L., Notre Dame University, Notre Dame, Ind.: 21 specimens of plants from Arizona (57401).
- GREENE, F. C., Bureau of Geology and Mines, Rolla, Mo.: Specimen of fern from the vicinity of Washington, D. C. (57380).
- GREENE, GEORGE T., Philadelphia, Pa.: Wasp, *Sphectna hogardii* (57637).
- GREENE, W. MAXWELL, American consul, Hamilton, Bermuda (through Dr. T. Wayland Vaughan): 3 specimens of stone from Bermuda (57641).
- GREGG, E. B., Washington, D. C.: A double-barrel pistol, with barrels side by side and locks of the Le-fauteux type (58332: loan).
- GREGG, W. R., Mount Weather Observatory, Bluemont, Va.: Moth, *Citheronia regalis* (57253).
- GRIFFINI, Dr. ACHILLE, Milan, Italy: A pair of specimens of beetle, *Eutrachelus temmincki* (57918).
- GRIFFITH, Mrs. MONTE, Cherrydale, Va. (through Mrs. R. G. Hoes): Collection of silver, embroideries, etc. (57215: loan); Hopl Indian bowl (57216); a colonial waffle-iron used by the Milnor family of New York (57417).
- GRONBERGER, S. M., Smithsonian Institution: Turtle, *Malaclemys*, from North Carolina (58485).
- GROUT, Dr. A. J., New Dorp, N. Y.: 25 specimens of mosses (Nos. 426-450, North American Musci Pleurocarpi) (57848: purchase).
- GUIDA, MICHELE, Washington, D. C.: Penholder decorated by donor with hand-woven covering of brightly colored silks (58069).
- HACKETT, WESLEY C., Relay, Md.: Beaded bag of the early 19th century (58405: loan).
- HAIMBACH, FRANK, Academy of Natural Sciences, Philadelphia, Pa.: 5 cotypes of Lepidoptera (57284).
- HALBACH, EDWARD H., Washington, D. C.: Snake, *Virginia valeriae*, from Washington (58161).
- HALEDON THROWING COMPANY, New York City: 13 skeins of novelty yarns and a small sample of silk crêpe dress goods (57568).
- HALIFAX, NOVA SCOTIA, PROVINCIAL MUSEUM: 11 crustaceans, *Meganycitaphanes norvegica*, from Hubbards Cove, Halifax County, Nova Scotia (58115).
- HALL, FRANK H., Sausalito, Cal.: A brick with stamped mark at one end, found in an Indian shell mound at Sausalito (57357).
- HALL, Dr. R. O., San Jose, Cal.: A miscellaneous collection of minerals and ores, including a large specimen of stibnite and one of native copper (57200).
- HAMILTON, Mrs. FANNIE, Petersburg, Va.: Cotton bedspread woven by Miss Julia A. Poole in Dinwiddle County, Va., in 1844, from cotton grown, picked, carded and spun by her; 2 patchwork quilts for a doll's bed, made in 1835 by Mrs. William Winfield for her granddaughter, Julia A. Poole, mother of the donor (57609).
- HAMLIN, Mrs. TEUNIS S., Washington, D. C.: A grindstone, used from 1800 to 1900 by the ancestors of Rev. Teunis S. Hamlin, D. D. (58495).
- HANBURY, Lady KATHARINE A., La Mortola, Ventimiglia, Italy: 7 living specimens of Cactaceae (57576: exchange).
- HANCOCK, JACK, West Palm Beach, Fla.: 2 skulls of Florida otter, *Lutra canadensis vaga* (58241).
- HARDWICK AND MAGEE COMPANY, Philadelphia, Pa.: A series of 30 specimens illustrating the manufacture of Wilton rugs (57359).
- HARDY, HARVEY, Goodsprings, Nev. (through Mr. Victor C. Helkes): Specimens of green crystal pseudomorphs (58230).
- HARGREAVES, E. (See under G. H. Corbett.)
- HARRING, H. K., Bureau of Standards, Washington, D. C.: 50 microscopic slides of Rotatoria from Washington

HARRING, H. K.—Continued.

and vicinity (57540); microscopic slide showing the tornaria larval stage of *Balanoglossus* (57930).

HARRIS, Capt. J. R., Medical Corps, U. S. Army, Fort Slocum, N. Y.: A string of brass pony bells from the Moros of Cotta-bato Valley, Mindanao, P. I. (57682).

HARRISON, Miss CARRIE, Bureau of Plant Industry, Washington, D. C.: 6 pottery heads from San Juan Teotihuacan, Mexico (57486); a modern pottery jar from Mexico (57819).

HARVARD UNIVERSITY, Cambridge, Mass.:

Cryptogamic Herbarium: 8 specimens of pteridophytes, chiefly from New Hampshire (57798: exchange).

Gray Herbarium: 12 specimens of willows, *Salix*, chiefly duplicate types, from Newfoundland (57736: exchange).

Museum of Comparative Zoölogy: Turtles from South America and Georgia (57650: exchange); 2 specimens of mollusk, *Polygyra johannis*, from La Carolina Lake, Mendosa, Cuba, received through Dr. Thomas Barbour (58440).

HARVEY, M. W., Sykesville, Pa.: A fossil tree stump from the Stanley mine, Sykesville (58228: purchase).

HASWELL, Prof. W. A., University of Sydney, Sydney, New South Wales, Australia: 6 crabs collected in the Antarctic by the Mawson Expedition, consisting of 4 specimens of *Haliscarcinus planatus*, a specimen of *Neotercarcinus antarcticus*, and a paratype of *Marectia mawsoni* (58511).

HATFIELD, A., jr., New York City: 50 postage stamps of native Indian States (58411); 76 stamps of native Indian States (58412: exchange).

HAWAII, COLLEGE OF, Honolulu, Hawaii: About 200 small reef crabs from Molokai, Hawaii (58008).

HAY, Dr. O. P., Washington, D. C.: Skull of a fossil sirenian from Oregon (57428: purchase). (See under

HAY, Dr. O. P.—Continued.

George L. Cannon, R. M. Cooper, William M. Dale, Frank Dillon, and J. D. Robertson.)

HAY, Prof. W. P., Business High School, Washington, D. C.: Flies and mites (57379).

HAYDEN, Capt. E. E., U. S. Navy, U. S. Naval Station, Key West, Fla. (through Navy Department): 3 specimens of electric wire and a specimen of porcelain insulator, showing the result of lightning stroke at radio station, Key West (57853).

HEIDEMANN, OTTO, Bureau of Entomology, Washington, D. C.: 75 Diptera collected around lights at Forest Glen, Md. (57693).

HEIGHWAY, A. E., New York City: 5 specimens of minerals from Cuba and California and a sample of pita fiber from Panama (57170).

HEIKES, VICTOR C. (See under Bull • Valley Gold Mines Company, Harvey Hardy, and Frank Wilson.)

HELLER, A. A., Chico, Cal.: 490 specimens of plants from California (57322; 57773: purchase); 33 specimens of plants, mainly grasses and ferns, from California (57322; 57532; 57771).

HENDERSON, JOHN B., Washington, D. C.: The only known specimen of the mollusk, *Haliotis pourtalesi*, from the Pourtales Plateau, Fla. (57266); marine worm, a starfish and 3 fishes (57296); a large collection of operculate land shells from the Philippine Islands, mostly from the Quaras collection (57332); crustaceans from off Miami, Fla. (57492); approximately 35,000 selected specimens of mollusks, generally identified and labeled, from all parts of the world, except the West Indian region (57806); about 550 land shells from Alabama (57827); about 100 fragments of fossil mammals from the Cumberland cave deposit, collected by Mr. J. W. Gidley (58354); about 45 crustaceans and a small octopus, from dredgings by the *Eolis* in the

HENDERSON, JOHN B.—Continued.

- Gulf Stream off Key West, Fla. (58506).
- HENDERSON, JOHN B., and PAUL BARTSCH:** Birds, reptiles, batrachians, fishes, marine invertebrates, mollusks, insects, algæ and Jurassic fossils, collected in Cuba by the *Tomas Barreras* expedition, 1914 (57608).
- HENDERSON, Judge JUNIUS,** University Museum, Boulder, Colo.: Shells from the Philippine Islands (58395).
- HENDLEY, HENRY W.,** U. S. Department of Agriculture, Washington, D. C.: A stone ax from St. George, Grenada, British West Indies, collected by the donor (58053).
- HERNDON, J. H.,** Tyler, Tex.: Specimen of gadolinite from Baringer Hill, Tex. (57633: purchase).
- HESS, FRANK L.,** U. S. Geological Survey, Washington, D. C.: A 145-gram slice of the Roebourne, Australia, meteoric iron (58169). (See under American Vanadium Company, Harold Boericke, S. H. Brockunier, F. P. Kendall, C. C. Lynn, and Wolf Tongue Mining Company.)
- HESS, Prof. W. E.,** University of Porto Rico, Mayaguez, P. R.: 39 specimens of ferns from Porto Rico (57310; 57616).
- HETH, Miss NANNIE RANDOLPH,** Washington, D. C.: Cut glass bowl (57549: loan).
- HEWETT, Dr. E. L.** (See under Panama-California Exposition.)
- HEYE, GEORGE G.,** The Heye Museum, New York City: Collection of skeletal material from an Indian burying-ground on the Jersey side of the Delaware River, opposite Minnisink Island, three miles below Montague, N. J. (57598); a human skeleton found in a flexed position about four feet deep, in Skeleton Rockshelter, Slate Spring Hollow, near Turkey Ford, Cowskin River, Okla. (57926); an Indian skeleton from the farm of Mr. W. G. Raines, Wheeler Station, East Bloomfield, Ontario County, N. Y. (58034).
- HIBBARD, RAYMOND R.,** Buffalo, N. Y.: 40 specimens, representing 15 species, of Devonian fossils (57252); conodont material from Eighteen Mile Creek, N. Y. (57323); 76 specimens of minerals (57921); 40 slabs containing conodonts (58029). Exchange.
- HIGGINS, H. C.,** Uxbridge, Mass.: 3 marine shells (57505).
- HILL, Prof. H. A.,** Cumberland University, Lebanon, Tenn.: Earthworms from Tennessee (57464).
- HILTON, Dr. WILLIAM A.,** Pomona College, Claremont, Cal.: 6 annelids from California and 13 specimens of sponge, *Porifera*, from Laguna Beach, Cal. (57816).
- HIND AND HARRISON PLUSH COMPANY, THE,** Clark Mills, N. Y.: 14 specimens of cotton and silk plushes and textile fur fabrics (57366).
- HINKLEY, ANSON A.,** Dubois, Ill.: 94 specimens, representing 13 species, of land and fresh-water shells from Guatemala (57331); fresh-water shells from the Ozark region of Missouri and Arkansas (57762).
- HIRASE, Y.,** Okazaki, Kyoto, Japan (through Dr. William H. Dall): A hand-painted atlas of mollusks (58306).
- HITCHCOCK, ROMYN,** Ithaca, N. Y.: Specimens of the McDonough method of photographing and reproducing colors, with descriptive pamphlet and prints (57233); record of Rogers printing telegraph (58039).
- HODGE, F. W.,** Bureau of American Ethnology: A specimen of native copper from the San Andres Mountains, N. Mex. (57934).
- HOES, Mrs. R. G.,** Washington, D. C.: An elegiac poem on the death of Gen. George Washington, printed on white satin and framed (57391: loan); 14 stone celts (hatchet blades) and a stone spearhead (57565); waistcoats and small-clothes worn by President James Monroe and dresses and a scarf worn by Mrs. Monroe, belonging to the

HOES, Mrs. R. G.—Continued.

Spurrer collection (58057: loan); a hand-painted and ivory fan (58409: loan); bookmark of perforated board, made by Maria Hester Monroe, daughter of President Monroe; 2 valentines sent about 1840 to Miss Marion Campbell by Charles Anthon, American classical scholar; and 13 silk ribbon souvenir badges with black printed portraits (58422: loan); 27 pieces of lace and a Chinese jade bracelet (58503: loan). (See under Miss Mary S. Buchanan, Miss Grace Olmsted Clarke, Mrs. Monte Griffith, and Mrs. Thomas Hamilton Wilson.)

HOFMANN, OSCAR, CORPORATION, New York City: Sample of tussah silk suiting (57994).

HOLMES, A. L., Dunedin, Fla.: Tail of a lizard, *Ophisaurus*, from Florida (58027).

HOLMES, WILLIAM H., U. S. National Museum: 86 miscellaneous archeological objects collected by the donor from various localities in the United States and Mexico (57952).

HOLSTEIN, OTTO, San Antonio, Tex.: 163 bird skins from Ecuador (57194).

HOLWAY, E. W. D., Pillsbury Hall, University of Minnesota, Minneapolis, Minn.: 48 specimens of plants from Guatemala (58105).

HOME-RIVERSIDE COAL COMPANY, THE, Leavenworth, Kans.: A cube of coal (58520).

HOOD, J. D., Bureau of Biological Survey, Washington, D. C.: 13 beetles collected in Panama by James Zetek (57634).

HOPKINS, A. D., Bureau of Entomology, Washington, D. C.: Land and fresh-water shells, representing 3 species, from West Virginia (57307).

HOPKINS, L. S., Kent, Ohio: 2 specimens of plants from Ohio (57168).

HOPKINS, W. H., La Verkin, Utah: Samples of carnotite and associated minerals, from Utah (58093).

HOUGH, Dr. WALTER, U. S. National Museum: 31 bronze and silver coins (57664).

HOUGH, Mrs. WALTER, Washington, D. C.: A large collection of plant specimens, chiefly from Arizona (57769).

HOUT, HARRY, Washington, D. C.: Leech from Potomac River near Washington (57566).

HOVIS, S. T., Bessemer City, N. C.: Samples of andalusite from Gaston County, N. C. (58003).

HOWARD, Dr. S. WREN, Washington, D. C.: 40 cut square U. S. stamped envelopes, used and unused, of the issues of 1853-1855 and 1863-1866 (57352); 136 stamps from Holland, Norway, Peru, Nicaragua and San Marino (57559); 120 stamps from Salvador, Norway, San Marino and the Philippines (57698). Exchange.

HOWE, R. HEBER, jr., Concord, Mass.: 6 specimens of lichens (58089).

HOWE, S. H. (See under King Phillip Mills.)

HOWELL, A. B., Covina, Cal.: 9 skins of Socorro petrel, *Oceanodroma socorroensis* (58205: exchange).

HOXIE, Brig. Gen. RICHARD L., U. S. Army (retired), Washington, D. C.: A full-length statue of the goddess Sappho, by Vinnie Ream (Mrs. R. L. Hoxie) (58419).

HRDLÍČKA, Dr. ALEŠ, U. S. National Museum: 2 snakes and 2 mammals from Africa (57309); 4 postcards and a photograph of Tibetans (57385); 2 photographs showing Tibetans engaged in illuminating sacred pictures (57747); flying squirrel from the District of Columbia (57893); 2 miniatures, in plaster, of Colombian monoliths, received by the donor from Dr. Karl Theodor Stöpel, Heidelberg, Germany (58022). (See under J. Matiegka.)

HUNT, JAMES, Smithsonian Institution: An English double-action revolver and a single-action revolver (57720).

HURLEY, S. P., Mexia, Tex.: Tooth of a fossil horse of the genus *Equus* (58290).

HURON TEXTILE COMPANY, New York City: Sample of cotton wash goods and 3 samples of silk stripe cotton voile (57336).

HUSTER, JULIUS, sr., St. Louis, Mo.: 14 reptiles and a batrachian, from Central America and the United States (57512; 58250); snake and 2 salamanders, from Missouri (58296; 58441).

IGLEHART, Miss M. E., Chicago, Ill.: Portrait, in oil, of John Sherman, statesman, by Wm. Garl Browne, February, 1879 (58101: loan).

IHERING, Dr. H. von, Museu Paulista, São Paulo, Brazil: 65 crabs from Brazil (57440).

INDIAN MUSEUM, Calcutta, India: Fragments (10.16 grams) of Manbhoom meteorite; a piece (14.66 grams), dust and fragments (2.86 grams) of Lodhran meteorite (57479: exchange).

INDIANA STEEL COMPANY, Chicago, Ill.: 14 detailed photographs of by-product coke-recovery plant of Indiana Steel Company's plant at Gary, Ind. (58516).

INTERIOR, DEPARTMENT OF:

Bureau of Mines: A sample of peat from Minnesota, collected by Mr. E. K. Soper (57503).

U. S. Geological Survey: Microscopic slides illustrative of the rocks of the Penobscot Bay quadrangle, Me. (57151); 6 specimens of granite from the Elkhorn district, Mont., collected by Dr. Whitman Cross (57152); a collection of sedimentary rocks from the Ouray quadrangle, Colo., collected by Dr. Cross and assistants and described in the Ouray folio of the Survey (57171); rocks representing the geology of the Engineer Mountain quadrangle, Colo., collected by Dr. Cross and assistants, and described in Folio 171 (57246); a large specimen of fossiliferous gray limestone from Bare

INTERIOR, DEPARTMENT OF—Continued.

Mountain, Nev., donated to the Survey by Mr. A. A. Turner (57153); rock and ore specimens from the Jarbridge and Contact mining districts, Nev. (57172); rocks and ores from the Dillon quadrangle, Mont., and adjacent areas, collected and described by Mr. A. N. Winchell in Survey Bulletin 574 (57173); a collection illustrative of the economic geology of the feldspar deposits of the United States, described by Mr. Edson S. Bastin in Survey Bulletin 420 (57174); type collections from the following mining districts: White Mesa and Bently, Ariz.; Hayden Hill, Winters (Hess), and High Grade, Cal.; and Miners Basin and Wilson Mesa, Utah (57175); a collection of Devonian invertebrate fossils, including a full series from the Watkins Glen and Catatunk quadrangles, N. Y., and large collections from elsewhere in New York and from other States (57177); a type collection of rocks, minerals, and ores from the San Francisco and adjacent districts, Utah, described by Mr. B. S. Butler in Professional Paper No. 80 (57203); miscellaneous duplicate collection of geological specimens from the San Francisco and adjacent districts, Utah (57249); rock specimens from Montana, Wyoming, Idaho, Washington, New Mexico, and Utah, collected principally by parties in charge of Mr. Charles T. Lupton from 1907 to 1913, inclusive (57250); miscellaneous geological specimens (57251); a series of gem minerals, including rough and cut stones, collected by Mr. D. B. Sterrett (57287); 35 rock specimens from the National District, Nev., with catalogue, labels, and thin sections, illustrating a bulletin by Mr. Waldemar Lindgren (57343); 825 specimens of phosphate collected in Florida by Mr. George H. Eldridge during 1894 (57344); specimens of columbite from Pala, San Diego County, Cal. (57445); specimens of custerite from Custer County,

INTERIOR, DEPARTMENT OF—Continued.

Idaho (type material) (57590); specimen of shattuckite with bisbeeite, from Bisbee, Ariz. (type material) (57611); 5 small lots of vertebrate fossils collected by Mr. W. T. Lee in Nebraska, Wyoming, and Colorado (57643); 73 specimens of plants collected in Alaska by Mr. R. H. Sargent and Mr. P. S. Smith (57702); 3 boxes of geological specimens collected in the Fort Hall Reservation, Idaho (57710); a collection of rocks and ores from the Hardscrabble Mining District, described by Mr. J. Fred. Hunter in Bulletin 580-C; and a specimen of orbicular diorite from Davie County, N. C., described by Mr. Thomas L. Watson in Journal of Geology 12 (1094) (57727); 2 specimens of cebolite and 1 of melillite, from the Iron Hill Area, Uncompahgre quadrangle, Colo., described by Mr. Hunter and Mr. E. S. Larsen in the Journal of the Washington Academy of Sciences, Vol. IV, No. 16 (58313); 2 boxes of rock fragments, consisting mainly of asbestos and talc (57767); slabs with scales and scute impressions of Eocene fishes of the genus *Lepisosteus*, collected by Mr. Dean E. Winchester in eastern Utah and western Colorado (57823); fragmentary Mesozoic and Tertiary vertebrate remains found by Mr. C. J. Hares in Natrona and Carbon Counties, Wyo. (57826); 4 specimens of celestite from Mt. Bonnell region, near Austin, Tex., and 2 specimens of barytes from deposits near Danville, Ky. (57878); about 200 specimens of fossil corals and shells from the Columbus (Onondaga) limestone, near Marblehead, Ohio, collected by Mr. Thomas Pilonka (57883); gems, including rough and cut stones, from California, Nevada, New Mexico, Massachusetts, and Mexico (57884); 5 small lots of fragmentary vertebrate fossils from southeastern Montana, collected by Mr. Clyde Max Bauer (57902); 2 small specimens of be-

INTERIOR, DEPARTMENT OF—Continued.

nitoite, 1 cut and 1 rough (57919); type crystals of mercury minerals from Terlingua, Tex., described in Survey Bulletin No. 405, and of variscite and lucinite from Lucin, Utah (57935); a set of rock specimens collected by Mr. C. F. Bowen in the Snake River Valley, Idaho, in 1911 (57966); geological collections from the Idaho Springs and Aspen (Colo.), and the Goldfield, Silver Peak and Tonopah (Nev.) districts, made by Mr. J. E. Spurr (57971); 4 small lots of fragmentary vertebrate fossils, collected by Mr. E. T. Hancock in Oliver County, N. Dak. (58002); 4 boxes containing samples of sand and gravel collected by Dr. David T. Day in connection with the investigations of the black sands of the Pacific coast (58020); 16 type mineral specimens (58032); small rock specimens collected by Mr. N. H. Darton to illustrate Deming folio and report on geology and water of Luna County, N. Mex. (58075); phosphate rock from Woodford County, Ky., and Lewis County, Tenn. (58141); a specimen of peculiarly weathered glassy andesite, with section (58194); a specimen of shale with hydrocarbons, from the Green River formation, Uinta County, Utah (58213); 121 lots of fossil mollusks from Virginia and North Carolina, representing the types of 121 species described by Miss Julia A. Gardner (58244); 3 fossil bones from the Pliocene or Miocene, near Burkeville, Tex., collected by Mr. G. C. Matson and Mr. Alexander Deussen (58245); 4 specimens of turquoise, illustrated and described by Dr. Joseph E. Pogue in his monograph on "The Turquoise" (58258); a collection of Upper Cretaceous invertebrates, described by Dr. L. W. Stephenson in a monograph entitled "Upper Cretaceous Mollusca and Vermes from the Carolinas" (58283); 9 small lots of Tertiary vertebrate fossils collected by Mr.

INTERIOR, DEPARTMENT OF—Continued.

R. W. Pack and Mr. Robert Anderson in the Diablo Range, Cal. (58314); 25 types and figured specimens representing 4 species of fossil Brachlopods described by Prof. Henry Shaler Williams (58467).

U. S. Patent Office: Models of 2 House and House sewing machines, a Crompton loom, a Bigelow loom, a Gorrie ice-making machine, and a Sholes, Glidden and Soule type-writer (57610).

INTERNATIONAL ACHESON GRAPHITE COMPANY, Niagara Falls, N. Y.: Collection of graphite products (57990); photographic enlargements of the plant of the International Acheson Graphite Company and of a general view of Niagara Falls (58535).

IRENEO, Bro. G., La Salle College, Ancon, Canal Zone: A small collection of Lepidoptera from Panama (57733).

ISHAM, SAMUEL, ESTATE OF (through Mrs. Julia Isham Taylor, executrix, New York City): An oil painting entitled "Wooded Landscape," by Samuel Isham, N. A. (57809).

JAHN, Dr. ALFREDO, Caracas, Venezuela: 14 specimens of plants from Venezuela (57414); 52 specimens of plants from Venezuela (57931: purchase).

JAMES, Mrs. JULIAN, Washington, D. C.: Collection of relics of the Bailey-Myers-Mason families (57219: loan); reed automatic hand organ (57232); planola and 6 music rolls (57301); a tiger skin made into a rug, presented to Lieut.-Commander Theodorus Bailey Myers Mason by the King of Korea (57781: loan). (See under Miss Helen E. Coolidge, Mrs. Allan McLane, Miss Phoebe Munroe, Mrs. José R. F. Savage.)

JAMESON, E. M., Washington, D. C.: A young great blue heron, *Ardea herodias* (57188).

JANSEN & PRETZFELD, New York City: 2 samples of novelty silks for trim-

JANSEN & PRETZFELD—Continued.

mings, sample of pongee silk, and a sample of warp-printed taffeta (58287).

JEFFERSON & CLEARFIELD COAL AND IRON COMPANY, Rochester, N. Y.: Lump of coal and a fossil (57905).

JENKS, G. W., Stephenville, Tex.: Vomerine plate of a pycnodont fish (57441).

JEPSON, Prof. W. L., University of California, Berkeley, Cal.: 22 specimens of plants from California (57740).

JESSUP, J. M., Corvallis, Oreg.: Snake, *Crotalus oregonus*, from Washington (57482).

JIMÉNEZ, OTÓN, Museo Nacional, San José, Costa Rica: 30 specimens of plants, mostly ferns, from Costa Rica (57205; 58154; 58390).

JOHNS HOPKINS UNIVERSITY, BOTANICAL GARDEN, Baltimore, Md.: Living specimen of cactus, *Pediocactus simpsonii* (58138: exchange).

JOHNSON, J. CHESTER, Marine Mills, Minn.: A specimen showing amethyst attached to carnelian (57475).

JOHNSON, Mrs. J. W., Pettus, Tex.: Bridled weasel, *Mustela frenata*, from Charco, Tex. (57793).

JOHNSON, RALPH CROSS, Washington, D. C.: 13 oil paintings (58257; 58341). Loan.

JOHNSTON, EARL LYND, Fort Lupton, Colo.: 100 specimens of plants from Colorado (57247).

JOHNSTON, H. F., Washington, D. C.: 40 specimens of plants from Hammerfest, Norway (57531).

JONES, C. H., Brooklyn, N. Y. (through Mr. E. W. Nelson, Bureau of Biological Survey, Washington, D. C.): 7 samples of bark cloth from the Mosquito coast of Nicaragua, made from the inner bark of the "tunu" tree, *Castilla tunu* (58013; 58023).

JONES, FOULK, & SONS, Slate Hill, Pa. (through Dr. F. W. Clarke, Washington, D. C.): Specimen of shale with thin plates of pyrite (57210).

- JONES, MARCUS E., Salt Lake City, Utah: 2 living specimens of cactus, *Opuntia*, from Utah (57192).
- JONES, NORMAN, Landover, Md.: Adult female specimen of Cooper's hawk, *Accipiter cooperi*, from Maryland (57430).
- JOYCE, MAURICE, Washington, D. C.: A bronze electrotype of the great seal of the Confederate States of America (57218).
- JUDD, GEORGE H., Washington, D. C.: Harpel's Typograph, or Book of Specimens (58166).
- K. K. NATURHISTORISCHES HOFMUSEUM. (See under Vienna, Austria.)
- KEENE MICA PRODUCTS COMPANY, Keene, N. H.: 37 specimens of mica and mica products (57491).
- KELEHER, T. A., Washington, D. C.: Entomological specimens exhibiting the life cycle of the silkworm moth, including eggs, larvæ and chrysalis in formalin, whole and pierced cocoons, and moths (57305: purchase).
- KELLERS, Dr. H. C., U. S. Navy, Mare Island, Cal.: Reptiles and batrachians, crustaceans, insects, bird skins and eggs, and a fossil (57817).
- KELSEY, Prof. F. W., San Diego Commercial College, San Diego, Cal.: 21 specimens of mollusk, *Thais emarginata*, from San Diego (58481).
- KEMEYS, Mrs. EDWARD, Washington, D. C.: 2 portraits of Edward Kemeys and 1 of Mrs. Kemeys; 3 portraits of Indians and 5 landscapes, by several artists; 10 paintings of animal subjects, mostly by Mr. Kemeys; 2 bronze candelabra and 2 plaster casts of animals, by Mr. Kemeys (58094: loan).
- KENDALL, F. P., American Can Company, Portland, Oreg. (through Mr. Frank L. Hess): Specimens of tin ore (57374).
- KENNEDY, CLARENCE H., Palo Alto, Cal.: 249 adult dragonflies, 7 nymphs and 43 nymphal exuviae, from Oregon and Washington (57412).
- KENT, W. A., Contact, Nev.: Idaho pigmy rabbit and a hard-mouth chub, *Acrocheilus alutaceus* (57142); minnow, *Richardsonius hydrophlox*, from Salmon River at an altitude of 5,300 feet (57297).
- KENTUCKY AGRICULTURAL EXPERIMENT STATION, Lexington, Ky.: 16 specimens of goldenrod, *Solidago*, from Kentucky (58157).
- KEW, LONDON, ENGLAND, ROYAL BOTANIC GARDENS: Fragments of types of 2 ferns, *Polypodium leptopodon* and *P. pruinatum* (57508; 58050); a drawing and 2 fragments of the types of 2 phanerogams, *Hebanthe* (58097). Exchange.
- KEYSER, E. W., Washington, D. C.: A Zuffi gourd rattle, 2 Cheyenne rawhide rattles, a Sioux pipe-stick and flute, a Kiowa quirt and an Osage bow and arrows (57749: exchange).
- KILPATRICK, Mrs. LOUISA V. DE, Santiago, Chile: Collection of relics of the late Gen. Judson Kilpatrick, U. S. Army (57292: loan).
- KING, Dr. E. F., Washington, D. C.: Larva of fly, *Fannia* (57636).
- KING PHILIP MILLS, Fall River, Mass. (through Mr. S. H. Howe, New York City): 4 specimens of bleached muslin (58321).
- KIRTLEY, GEORGE G., Van Horn, Tex.: Garnets from Texas (57595).
- KISSNER, ROBERT, Ironton, Mich.: Specimens of rutile, corundum, garnet, tourmaline, and other minerals, from Clearwater County, Idaho (58074).
- KITSON, HENRY H., New York City: Bronze bust of Viscount Bryce, by the donor (57244).
- KLASE, J. S., Avon Park, Fla.: Specimen of beetle, *Stratefus anteus* (57480).
- KLEIN, EUGENE, Philadelphia, Pa.: Specimen each of the 3, 5, 10 and 20-pfennig stamps of the German Empire over printed for use in Belgium (58079); 2 St. Louis postmaster provisional stamps, 1845, namely, 10-cent type I, and 10-cent type III (58133: exchange).

- KLOTS THROWING COMPANY**, Fredericksburg, Va.: A series of specimens illustrating the processes used in throwing silk (57239).
- KNAB, FREDERICK**, Bureau of Entomology, Washington, D. C.: 184 Diptera and 25 miscellaneous insects, from the vicinity of Washington, collected by the donor (57545).
- KNOFF, EZRA C.**, San Ysidro, Cal.: 3 specimens of catalinite, cut for gem stones (57955: purchase).
- KNOWLTON, S. D.**, Perthshire, Miss.: Portion of a tooth of a mastodon (57839).
- KÖNIGL. VETERINÆR OG LANDBO-HØISKOLE**. (See under Copenhagen, Denmark.)
- KRANTZ, Dr. F.**, Bonn, Germany: A piece of the Tennessean, Esthland, meteoric stone, weighing 998 grams (57936: exchange).
- KRONHOLTZ, S.**, Stamford, Conn.: A watch movement and an English watch in a silver case (57631).
- KEYGER, J. P.**, Gjentofte, Denmark: 146 vials of biological material of Coleoptera; 51 tubes of Hymenoptera; a sheet of material of wasp, *Salix sanguinolentus*, showing prey, larvae and cells; a sheet of vials of spider, *Agroeca proxima*, showing egg case in various stages of construction (57689).
- KUESTER, ARTHUR**, Stapleton, Staten Island, N. Y.: Living specimen of cactus, *Opuntia* (58292: exchange).
- KUNZ, Dr. GEORGE F.**, President, The American Scenic and Historic Preservation Society, New York City: 2 medals issued by the American Numismatic Society, commemorating the dedication of the Grant Monument and the discovery of America by Christopher Columbus, respectively (58146).
- KUNZE, Dr. R. E.**, Phoenix, Ariz.: Living specimen of cactus, *Echinocereus kunzei* (58263: exchange).
- KURSHEEDT MANUFACTURING COMPANY**, THE, New York City (through Mr. Richard Bloch, secretary and general manager): The first four working-models of the Groebli Automat, the first embroidery Jacquard used in America for operating the Schiffli embroidery machine; also the first punching machine used for perforating the paper roll which operates the automat—all five machines invented by Mr. J. A. Groebli of New York (58529).
- LAKE, R. E.**, Las Vegas, Nev.: A specimen of vanadium-bearing ore and one of oolitic iron (58142).
- LAMB, Dr. D. S.**, Army Medical Museum, Washington, D. C.: 2 anatomical specimens (57230; 58001).
- LANGE, R. C.**, St. Louis, Mo.: 9 Lepidoptera belonging to the genus *Catocala* (58192: exchange).
- LANSBURG AND BRO.**, Washington, D. C.: Collection of 92 small named samples of cotton and silk dress goods (58531: purchase).
- LARKIN, Mrs. J. D.**, Buffalo, N. Y.: Lavender silk dress (skirt and bodice) worn at the White House by Abigail Powers, wife of President Millard Fillmore, during her husband's administration, 1850-1853 (57708: loan).
- LARRIERU, E. P. A.**, Turner, Ariz.: Lizard, *Coleonyx variegatus*, and 2 shells, *Anodonta californiensis*, from Arizona (57404).
- LATIMER, MORTIMER**, Hyattsville, Md.: Cooper's hawk, *Accipiter cooperi*, from Maryland (57829).
- LAWRENCE AND COMPANY**. (See under Pacific Mills.)
- LAWSON, J. B.**, Sevierville, Tenn.: A specimen of metallic iron of doubtful origin (58091).
- LAY, Rev. GEORGE WILLIAM**, Raleigh, N. C.: Decorated pottery bowl from a cliff-dwelling near Cortez, Colo. (57612: loan).
- LEA, A. V.**, Leakey, Tex.: Specimen of phanerogam, *Pentstemon australis*, from Texas (58308).

- LEAVY, JOSEPH B., U. S. National Museum: 226 specimens of postage, parcel post, telegraph and other stamps and stamped envelopes, used and unused (57285).
- LEHIGH COAL AND NAVIGATION COMPANY, THE, Lansford, Pa.: 15 pounds each of broken coal, egg coal, stove coal, chestnut coal, pea coal, buckwheat coal Nos. 1, 2, 3, 4, and of brickettes; also a specimen of anthracite coal from the northern end of Southern Basin (57907).
- LEHIGH UNIVERSITY, DEPARTMENT OF GEOLOGY, South Bethlehem, Pa.: Specimen of gneiss from Shiloh, N. J. (57763).
- LEITZEL, ERNEST A.: Fossil teeth and fragments of bones, from Florida (58260).
- LEUMANN, BOESCH & WEINGART, New York City: 2 specimens of Swiss machine-embroidered trimmings, showing the use of silver tinsel (58338).
- LEWIS, Rev. L. V., Henderson, Ky. (through Dr. L. O. Howard, Washington, D. C.): Parasitic copepod on goldfish from Henderson (57632).
- LEWTON, F. L., U. S. National Museum: 8 specimens of phanerogams, Malvaceae, from Australia (58151).
- LINDSEY, W. T., Marshall Hall, Md.: Specimen of king rail, *Rallus elegans*, from Maryland (57674).
- LIPTON, LOUIS, Grand Junction, Tenn. (through War Department): A bronze belt buckle and a bronze clasp of the period of the Civil War (58300).
- LOCKER, Mrs. J. J., Washington, D. C.: A Cheyenne Indian quiver from Indian Territory, said to have belonged to Two Moons, collected by Mr. Alfred Clarke Hawley (57229).
- LOCKWOOD, Mrs. BELVA A., Washington, D. C.: Mollusks, minerals, corals, crustaceans, a starfish, and anthropological specimens (57263).
- LONG, BAYARD, Academy of Natural Sciences, Philadelphia, Pa.: Specimen of phanerogam, *Chenopodium*, from New Jersey (57738).
- LONG, The Misses, Washington, D. C.: Memorials of the Bradford family of New England, embracing 26 articles, including a mahogany writing desk, inlaid jewel box, ivories, brasses, bronzes, etc. (57245: loan); a walking stick of tea-wood with onyx head, brought from China in 1839 for Isaac Chauncey Long (57658: loan); 2 carved pearl shells (57993: loan); printed facsimile of "The New York Morning Post," November 7, 1783; and facsimile of "The New England Courant," February 11, 1723, published by Benjamin Franklin—printed in 1856 on a press once used by Franklin (58351).
- LOWENSTEIN, Miss LORETTA, Washington, D. C.: Pastel painting on gray paper, "Girl's Head," by the donor (57980).
- LOWRY, HOMER H., Pekin, China: Larva of an Ichneumon fly (57618).
- LYNN, C. C., Greenriver, Utah (through Mr. Frank L. Hess): A specimen of uvanite from Emery County, Utah (58163).
- LYON, The Misses ELIZABETH L., MARY and GRACE, Baltimore, Md.: Military trappings, etc., collected in Japan about thirty years ago by the late J. Crawford Lyon, consisting of 20 helmets, 8 helmet crests, 6 facepieces (masks), a pair of stirrups, 11 spears and staffs, 73 sword guards, 273 sword ornaments, 208 hara-kiri knife handles, 17 small knives, 23 knife blades and a helmet decoration (57686).
- MCATEE, W. L., Bureau of Biological Survey, Washington, D. C.: 35 Hymenoptera, *Comedo anomocerus* (57144); fishes collected in the canal and river in the vicinity of Plummers Island, Potomac River (57527); 11 crabs, representing 3 species, from Oyster Bay, Wash. (57688; 57752); 3 crabs from Willapa, Wash. (57995); 507 specimens of plants from Maryland, Washington, D. C., and vicinity (58118; 58559).

- MACBETH - EVANS GLASS COMPANY**, Pittsburgh, Pa.: Miscellaneous collection of glass articles (58456).
- MCCONATHY, Mrs. RICHARD**, Ocala, Fla.: United States gold coin—quarter dollar of 1868 (58076). (See under Mrs. Amelia Lee Smith Miller and Thomas Jefferson Smith.)
- MCCOOL, T. H., AND COMPANY**, New York City (through The Decorus Manufacturing Company): 6 specimens of domestic silk fabrics decorated by The Decorus Manufacturing Company with the airograph machine (57669).
- MCCULLOCH, ALLAN R.**, Australian Museum, Sydney, New South Wales, Australia: 2 specimens of giant crab, *Pseudocarcinus gigas* (57365).
- MACDONALD, A. W.**, Marfa, Tex.: 2 small specimens of cyrtolite and a fossil shell (57353).
- MCDONALD, N. A.**, Seattle, Wash.: Large golden beetle, *Plusiotis resplendens*, from Central America (58383).
- MCFARLAND, HORACE**, New York City: 8 silver, 5 bronze and 2 copper coins (57648; 57721).
- MACKENZIE, K. K.**, New York City: Specimen of phanerogam, *Bassia hirsuta*, from New Jersey (57861: exchange).
- McLANE, Mrs. ALLAN**, Washington, D. C. (through Mrs. Julian James): Ethnologica, art objects, souvenirs, etc., from various parts of the world—"The Allan McLane Collection" (58424: loan); a large, oval, covered basket from Mexico, a pair of snow shoes from Canada, an alligator skin from Florida, and 3 undecorated calabashes (58497).
- McMAHON MUSEUM**. (See under Quetta, Baluchistan, India.)
- McMULLIN, D. J.**, U. S. Naval Station, Tutuila, American Samoa: 3 specimens of plants from Samoa (58325).
- McROY, JOHN T.**, Bennington, Vt.: Signature of Sitting Bull (57695).
- MADISON, CHRIS F.**, Juneau, Alaska: Granite hammer with ax or pick point, from Shelter Island, southeastern Alaska (57308).
- MAHIN, Mrs. FRANK W.**, American Consulate, Amsterdam, Netherlands: 43 pieces of laces and embroideries (58071: loan).
- MALNATI, Miss VIRGINIA**, Washington, D. C.: Specimen of adder's-tongue, *Ophioglossum*, from the District of Columbia (58403).
- MANILA, BUREAU OF SCIENCE**. (See under Philippine Islands, Government of the.)
- MANILA, UNIVERSITY OF THE PHILIPPINES**. (See under Philippine Islands, Government of the.)
- MANN, WILLIAM M.**, Bussey Institution, Boston, Mass.: Specimen of cockroach, *Myrmecoblatta rehni* (58052: exchange).
- MANNING, Mrs. MARY H.**, Fort Bidwell, Cal. (through Mr. W. W. Eggleston): 8 specimens of plants from California (58232).
- MANSFIELD, W. C.**, U. S. Geological Survey, Washington, D. C.: A quartz geode from near Bainbridge, Ga. (57825).
- MARBLE ARMS AND MANUFACTURING COMPANY**, Gladstone, Mich.: Double-barrel rifle, "Game Getter" (58253).
- MARCUSE, BERNHARD**, New York City: 2 specimens of asbestos tile (57488).
- MARINE BIOLOGICAL LABORATORY**, Woods Hole, Mass. (through Mr. George M. Gray, curator): Insect, *Lepidopa venusta*, 2 specimens of mollusk, *Glottidia pyramidata*, and 2 specimens of roach, *Blaberus atropos* (58200).
- MARSH, Dr. C. D.**, Bureau of Plant Industry, Washington, D. C.: 4 microscopic slides of type specimens of crustacean, *Diaptomus virginienensis*, and mounts of *D. tyrelli* (58123).
- MARSHALL, GEORGE**, U. S. National Museum: Star-nosed mole, *Condylura cristata*; pine mouse; 4 specimens

MARSHALL, GEORGE—Continued.

of cedar waxwing, *Ampelis cedrorum*; and a specimen of oak, all from Maryland (57148; 57807; 57916; 58432).

MARSHALL, HENRY R., Halifax, N. C.: 4 fishes, including examples of *Centrarchus macropterus* and *Pomoxys annularis* (57294).

MARTIN, DR. J. C., U. S. National Museum: 2 samples of clay used in sizing paper (58006).

MASON, FRANK R., Germantown, Pa.: 76 longicorn beetles from South America and Borneo (57546: exchange).

MASON, S. G., U. S. Geological Survey, Washington, D. C.: 41 specimens of Cretaceous invertebrate fossils from Prince Georges County, Md. (57597).

MASSACHUSETTS MOHAIR PLUSH COMPANY, Lowell, Mass.: A series of specimens illustrating the manufacture of mohair plushes (57533).

MATIEGKA, Prof. J., Prague, Bohemia (through Dr. Aleš Hrdlička): 8 prehistoric skeletons, 4 prehistoric skulls and 5 fragments of pottery, from Bohemia (58528: collected for the Museum).

MATTES, JOSEF, Brooklyn, N. Y.: 14 larvæ of Lepidoptera (58195).

MAUL, G. H., Port Arthur, Tex.: Fragmentary human and alligator bones, potsherds and shells, from a shell-bank near Port Arthur (58218).

MAXON, WILLIAM R., U. S. National Museum: 210 specimens of plants from the District of Columbia and vicinity (57278; 57876; 58449); 50 specimens of plants from Maryland (57484).

MAYER, DR. ALFRED G., Carnegie Institution of Washington: 30 corals, representing about 6 species, from Barbados (58268); about 300 corals representing some 75 species, calcareous algæ, bottom samples and lithologic specimens, from Murray Island, Australia (58453).

MAYNARD, C. J., West Newton, Mass.: 150 specimens, representing 39 species, of Bahama land shells, cerions (58068: purchase).

MAZA, Dr. M. G., Catedrático de Botánica de la Universidad Nacional, Havana, Cuba: 8 specimens of phanerogams, *Bauhinia*, from Cuba (57298).

MEARNS, Lieut. Col. EDGAR A., U. S. Army (retired), U. S. National Museum: 2 bird skins from Great Falls, Va. (57160); fresh-water mollusks (57267).

MELL, C. D., Bureau of Chemistry, Washington, D. C.: 12 specimens of plants (57974).

MEMBREÑO, Dr. ALBERTO, minister of Honduras at Washington: Obsidian core found in a cave of the mountains of Honduras, near Puerto Cortes (57599).

MERRIAM, Dr. C. HART, Washington, D. C.: Fresh-water shells from the Humboldt River sink, Nev. (57881).

MERRIMACK MANUFACTURING COMPANY, Lowell, Mass.: Specimens of printed cotton dress goods and drapery fabrics (58197).

METCALF, The Misses ELIZABETH HENSHAW and SARAH SPRAGUE, Worcester, Mass.: Ethnological articles from the Philippine Islands (57787: loan).

MICHIGAN, UNIVERSITY OF, MUSEUM OF ZOOLOGY, Ann Arbor, Mich. (through Dr. Alexander G. Ruthven, director): 7 lots of crustaceans, including type material, from Santa Marta Mountains, Colombia, collected by the Bryant Walker Expedition and described by Dr. A. S. Pearse (57651); 2 Formosan squirrels (58117: exchange); 7 paratypes of crabs—*Pseudothelphusa clausa* and *P. pearsei*, from Colombia (58490).

MIGEL, M. C., & COMPANY, New York City: 12 pieces of taffeta silk, "Mex-ixe Pussy Willow" (57318).

MILLER, A. L., Delray, Fla.: An Indian skull found in a mound near Delray (57214).

- MILLER, MRS. AMELIA LEE SMITH, Bardstown, Ky. (through Mrs. Richard McConathy): United States gold dollar of 1853, octagonal, with ring in rim (58408).
- MILLER, Prof. A. M., Kentucky State University, Lexington, Ky.: 2 exhibition specimens of Ordovician sponges (57257).
- MILLER, Mrs. E. P., Alexandria, Va.: Turtle, *Clemmys guttatus*, from Fairfax County, Va. (57444).
- MILLER, GERRIT S., jr., U. S. National Museum: 3 specimens of crustacean, *Cambarus affinis*, from Alexandria, Va. (57828); yellow-breasted chat, *Icteria virens*, from Virginia (58366).
- MILLER, Miss MARY F., Washington, D. C.: 145 specimens of mosses and lichens, from the District of Columbia and vicinity (57705; 58026).
- MILWAUKEE, PUBLIC MUSEUM OF THE CITY OF, Milwaukee, Wis.: Beetle, *Phengodes longicornis* var. (58106).
- MINER, Mr. and Mrs. L. D., Washington, D. C.: Blue-gray gnatcatcher, *Polioptila caerulea*, from Washington (58438).
- MINGAYE, JOHN C. H., Department of Mines, Sydney, New South Wales, Australia: A 160-gram piece of the Gilgoin No. 7 meteorite (58502).
- MISSISSIPPI, GEOLOGICAL SURVEY OF, Jackson, Miss.: Washings containing bryozoans and other Tertiary fossils from Mississippi (57208).
- MISSOURI BOTANICAL GARDEN, St. Louis, Mo.: 19 specimens of plants collected in the East Indies by Messrs. Hooker and Thomson (57925: exchange).
- MITCHELL, Hon. J. D., Victoria, Tex.: 65 specimens and 4 tubes of earthworms, from various localities in Victoria County, Tex. (57372; 57463; 57489; 57501; 57525; 57899).
- MITCHELL, MASON, American consul, Apia, Samoa: Squilla, *Lysiosquilla maculatus*, from Apia (57856).
- MONADNOCK MILLS, Claremont, N. H.: Marseilles bedspread (58196).
- MONARCH COAL & MINERAL COMPANY, Excelsior, Mo.: A cube of coal (58522).
- MONNET, Dr. PAUL, French Consulate, San Francisco, Cal.: 16 living specimens of Cactaceae and a dried gourd, from Arizona (57163; 57165; 57207; 57577); 40 specimens of plants from Nevada, Arizona and California (57255: exchange).
- MONROE, CHARLES E., Milwaukee, Wis.: 37 specimens of *Aster* from Wisconsin (57587: exchange).
- MONROE, F. C., Holmes, Iowa: The shed skin of a snake, *Eutania* (57193).
- MONTGOMERY, J. E., Stark, N. H.: Rainbow trout, *Salmo irideus*, from New Hampshire (58443).
- MONTGOMERY, J. R., COMPANY, Windsor Locks, Conn.: Samples of cords and dress trimmings showing the use of metal threads and brilliants (57563).
- MOODIE, Miss MARION E., Calgary, Alberta, Canada: 257 specimens of plants from Alberta (57600; 57677). Purchase.
- MOODIE, Prof. ROY L., University of Kansas, Lawrence, Kans.: Reptiles and batrachians from Kansas (57289: exchange).
- MOORE, CLARENCE B., Philadelphia, Pa.: Indian skeletal material from Alabama and Tennessee, collected by the donor (58140; 58353); large pottery vase from a mound on the Bennett place, Marion County, Tenn. (58442).
- MOORE, P. P., Cumberland, Ohio: Moth, *Citheronia regalis* (57195).
- MOORE, Dr. WILLIAM CABELL, Washington, D. C.: 5 specimens of plants from the vicinity of Bluemont, Va. (58491).
- MORGAN, Hon. LEWIS L. (See under C. K. David.)
- MORRIS, Miss FRANCES. (See under Mrs. Newton W. Gilbert.)
- MORTON, Mrs. LEVI P., Washington, D. C.: Nine specimens of brocades, embroideries and silk (58145: loan).

MOSHANNON COAL MINING COMPANY, Osceola Mills, Pa.: A lump of coal (57910).

MOSONYI, EMILIO, San Salvador, Central America: Large jade ax from Alta Verapaz, Guatemala, Central America; small stone chisel from Ahuachapan, San Salvador; and a clay figure from Tepecoyo, San Salvador (58276).

MOXLEY, GEORGE L., Los Angeles, Cal.: 50 specimens of plants from California (58112; 58492).

MOYER, WILLIAM J., Grand Junction, Colo.: A specimen of carnotite and 1 of lignite partially replaced by carnotite, from Grand County, Utah (57901).

MUCK, CHARLES, Pasadena, Cal.: 3 specimens of aluminium-bearing mineral (58297).

MUNROE, MISS PHOEBE, New York City (through Mrs. Julian James): Widow's cap worn during the '80s (57443).

MURIE, O. J., Portland, Oreg.: Batrachians—*Hyla regilla*, *Rana aurora* and *Bufo woodhousei*, from Oregon (58270).

MURK, H., Lillooet, British Columbia, Canada: 25 Jurassic fossils from British Columbia (57623).

MURPHY, D. J., American consul, Amsterdam, Netherlands (through Bureau of Foreign and Domestic Commerce, Washington, D. C.): Specimen of vegetable fiber, kapok, *Ceiba pentandra* (57265).

MUSSELMAN, M. E., Milton, Pa.: Luna moth, *Tropæa luna* (57416).

MYERS, MRS. OLIVE B., Thurmont, Md.: Brocaded Chinese robe made for Emperor Hein Fung and taken from the Yuen-Ming-Yuen, Peking, when that palace was destroyed by fire in 1860 by order of the English and French allies (58429: loan).

NASSAU STAMP COMPANY, New York City: 116 United States postage stamps of the issues of 1847, 1851, 1857, 1861, 1862, 1867, 1869, 1871, 1873, 1875, 1879, 1883, 1887, 1890,

NASSAU STAMP COMPANY—Continued.

1895, 1898, 1901 and 1907, special printings of 1875 and 1880, and postage due, departmental and newspaper stamps (57517); 39 stamps of the United States and Puerto Principe (57675); 1,143 United States stamped envelopes (57885); 389 foreign stamps, mostly 20th century, French, Portuguese and Spanish Colonies (58126); 19 United States stamped envelopes and carrier stamps (58132). Exchange.

NATAL HERBARIUM, Berea, Durban, Natal, Union of South Africa: 102 specimens of plants from South Africa (57241: exchange).

NATIONAL ACADEMY OF SCIENCES, Washington, D. C.: Fragments of 12 meteorites (58216); a collection of apparatus and photographs of astronomical subjects, which were used by the late Henry Draper, one of the first to apply photography in astronomical research (58310). Deposit.

NATIONAL ASSOCIATION OF PORTRAIT PAINTERS (through Mr. Earl Stetson Crawford, secretary, New York City): 27 paintings in oil (58036: loan for special exhibition).

NATIONAL RIFLE ASSOCIATION OF AMERICA, Washington, D. C.: Swiss military rifle, Russian military rifle, French military rifle, British military rifle, Mannlicher military rifle, and Winchester rifle made especially for target shooting (58330: loan).

NATIONAL SOCIETY OF THE COLONIAL DAMES OF AMERICA, Washington, D. C.: Dress sword of Baron von Steuben, presented in 1794 to his aid-de-camp, Col. William North, and owned by his great-granddaughter, Mrs. Francis B. Austin, Summit, N. J.; lent through the Colonial Dames of the State of New York (58329); 3 2-tined forks of the colonial period, presented to the Society by Mrs. R. G. Hoes, a member of the District Society of the Colonial Dames (58420). Loan.

NATURHISTORISKA RIKSMUSEUM, ETNOGRAFISKA AFDELNINGEN. (See under Stockholm, Sweden.)

NAVY DEPARTMENT:

23 firearms and a sword, from the Washington Navy Yard (58284); miscellaneous relics of the *Jeannette* North Polar Expedition of 1879-1881 (58473).

Bureau of Navigation: Bronze medal of honor of the type awarded by the Navy Department for distinguished services; also a medal of honor button (58285: loan).

NELSON, C. Z., Galesburg, Ill.: 4 living specimens of Cactaceae and 3 specimens of *Agave*, from Colorado (57579); 2 living specimens of Cactaceae (58208; 58233: exchange).

NEW JERSEY ZINC COMPANY, THE, Franklin Furnace, N. J.: A piece of crystalline white limestone from the hanging wall, representing the Franklin limestone in which the ore body occurs (58259).

NEW MEXICO COLLEGE OF AGRICULTURE AND MECHANIC ARTS, State College, N. Mex.: 3,921 specimens of plants from New Mexico (58279; 58374). Exchange.

NEW YORK BOTANICAL GARDEN, Bronx Park, New York City: 1,212 specimens of plants mainly from the West Indies (57280; 57330; 57470; 57739; 58180; 58324); 262 specimens of mosses from the Philippine Islands, collected by Mr. R. S. Williams (57338); 2 specimens of plants from Bermuda, and 2 palms from Curaçao (57402; 57725); specimen of *Acnida* from New York (57499); 8 photographs and 4 specimens of Cactaceae (57790; 57982); 29 living specimens of Cactaceae (58207); 153 specimens of marine algæ, chiefly from Peru and the West Indies (58262); specimen of fern, *Notholaena*, from Mexico (58391). Exchange.

NEW YORK STATE MUSEUM, Albany, N. Y.: Exhibition slab containing specimens of the Devonian glass sponge, *Hydnoceras bathense* (57522).

NICKLES, JOHN M., Washington, D. C.: About 6,000 specimens of Ordovician and Silurian fossils from Illinois, Indiana and Kentucky (57363: purchase).

NOKES, Dr. I. D., Los Angeles, Cal. (through Mr. Edward J. Brown): 3 bird skins from California (58173).

NORTH, Prof. H. B., Rutgers College, New Brunswick, N. J.: A specimen of pseudomorph of limonite after marcasite (57415: exchange).

NORTH CAROLINA STATE DEPARTMENT OF AGRICULTURE, Raleigh, N. C. (through Mr. R. W. Leiby): Crustacean, *Hepatus epheliticus*, from Wrightsville Beach, N. C. (58124).

NORTH DAKOTA, UNIVERSITY OF, University, N. Dak.: 8 fishes—*Ichthyomyzon concolor*, *Scaphirhynchus platyrhynchus*, *Lepidosteus platostomus*, *Moacostoma aureolum*, *Ictiobus cyprinella*, *Hiodon tergisus*, *Esox lucius*, and *Stizostedion canadense* (58299: exchange).

NORTON COMPANY, Worcester, Mass.: Miscellaneous collection of alundum abrasives (57903).

NORTON, J. B., Bureau of Plant Industry, Washington, D. C.: 10 specimens of catbrier, *Smilax*, from the vicinity of Washington (58137).

NORTON, J. D., Punta Gorda, British Honduras: About 155 specimens of parasitic Hymenoptera (57678).

NUSSMANN, Rev. O., Sakti, Central Provinces, British India: Sloth-bear from India (57951: purchase); a hare and 2 owls from India (57953).

OBERHOLSER, H. C., Bureau of Biological Survey, Washington, D. C.: Nest of Cairns' warbler, *Dendroica caerulescens cairnsi*, from North Carolina (57158).

OBERTHÜR, M. RENÉ, Rennes, France: 47 insects (57405: exchange).

OLDBERG, C. R., Los Angeles, Cal.: 84 archeological specimens from the District of Columbia, Virginia and Arizona (57794).

- OLDROYD, Mrs. T. S., Long Beach, Cal.: 17 specimens of mollusk, *Thais emarginata*, from various localities in California (58482).
- OLDS MOTOR WORKS, Lansing, Mich.: Gasoline automobile constructed in Lansing, in 1896, by Mr. R. E. Olds, with the assistance of Mr. Frank Clark (57967).
- OLIVER, JAMES, Chignik, Alaska: About 40 mollusks, 3 isopods and 15 insects, collected in Alaska (57812).
- OLMSTED, Miss HELEN A., U. S. National Museum: Tortoise, *Terrapene carolina*, from the District of Columbia (58487).
- ORCUTT, CHARLES R., San Diego, Cal.: Lot of drift inclosing minute marine shells, from San Diego Bay, Cal. (58448).
- OREGON AGRICULTURAL COLLEGE (through Prof. H. S. Hammond), Corvallis, Oreg.: 87 specimens of plants from Oregon (57703; 57772; 57891).
- ORINOKA MILLS, THE, Philadelphia, Pa.: Specimens of cotton tapestry, tub and sunfast draperies, and yarns and punched cards to illustrate intermediate stages in the manufacture of upholstery and drapery fabrics (57815).
- ORRICK, GEORGE A., Captiva, Fla. (through Bureau of Plant Industry, Washington, D. C.): 60 specimens of plants from Florida (58209).
- OSBURN, Dr. R. C., Barnard College, Columbia University, New York City: Dipteran, *Eristalis rupium* (58193: exchange).
- OUTWATER, Mrs. K., Washington, D. C.: 5 specimens of iron concretions artificially modified, found 50 feet beneath the surface at the terra-cotta works, Brookland, D. C. (58369).
- PACIFIC MILLS, Lawrence, Mass. (through Lawrence and Company, Boston, Mass.): Specimens of printed and piece-dyed cotton dress goods and draperies (58009).
- PACKARD, Mrs. ELIZABETH WALCOTT, Andover, Mass. (through Prof. T. D. A. Cockerell): A collection of colored figures of lepidopterous larvae, intended for publication by Dr. A. S. Packard (57898).
- PAGE, Maj. W. N., Washington, D. C. (through Dr. David White): A bowl-der from the Mill Creek coal mine near Ansted, W. Va. (58078).
- PALEMO, ITALY, ROYAL BOTANICAL GARDEN (through Mr. V. Riccobono, head gardener): Living specimen of cactus, *Borzicactus ventimiglie* (57581: exchange).
- PALMER, Mrs. ESTELLE, Chicago, Ill.: 29 objects of the North American Indian, which belonged to the donor's husband, the late Maj. George Henry Palmer, U. S. Army (58289).
- PALMER, WILLIAM, U. S. National Museum: 3 bird skins from Virginia (57603); 5 bird skins from Maryland (57680); 12 specimens of mollusk, *Macoma constricta*, from throats of the white-winged scoter, *Oidemia deglandi*, from Plum Point, Md. (57712); Wilson's thrush, *Hylocichla fuscescens* (58339).
- PALMER, W. J., New York City: Specimen of carnotite from Lincoln County, Nev. (57535).
- PALMETTO DRUG COMPANY, Palmetto, Fla.: 2 specimens of crustacean, *Meinertia deplanata* (58291).
- PANAMA-CALIFORNIA EXPOSITION, San Diego, Cal.: (through Dr. E. L. Hewett): 877 archeological and 12 ethnological specimens (58532: exchange).
- PARRISH, S. B., San Bernardino, Cal.: A specimen of *Selaginella*, and 14 living specimens of Cactaceæ, all from California (58150; 58182; 58293).
- PARMENTER, B., Rutland, Vt.: 15-spotted "lady beetle," *Anatis punctatus* (58379).
- PATTISON, W. D., Winamac, Ind.: Partial skeleton of a mastodon, consisting of 22 elements (57622).

- PEACE DALE MANUFACTURING COMPANY**, Peace Dale, R. I.: 6 samples of cloth having a worsted filling and a woolen warp (57500).
- PEARY**, Rear Admiral ROBERT E., U. S. Navy (retired), Washington, D. C.: 3 gold medals awarded to Rear Admiral Peary in recognition of his Arctic explorations and a bronze Elisha Kent Kane medal presented to him by Mr. Harry B. Kane; also photographs of a bronze tablet and a silver shield, presented in recognition of his Arctic achievements (58416: loan).
- PELGRAM AND MEYER**, New York City: 11 samples of fancy ribbons (57564).
- PENNELL**, Dr. F. W., New York Botanical Garden, New York City: 7 specimens of phanerogams (57358; 57860).
- PENNINGTON**, L. H., Syracuse University, Syracuse, N. Y.: Specimen of *Selaginella* from Saskatchewan (57923).
- PENNSYLVANIA, UNIVERSITY OF**, Philadelphia, Pa.: 62 specimens of phanerogams, Scrophulariaceae, from the eastern part of the United States, collected by Dr. F. W. Pennell (57584: exchange).
- PERKINS**, JOHN U., Smithsonian Institution: 19 numbers of the magazine "The Inland Printer"; an engraving, "The Rescue," by J. Sartain, after the painting by John Blake White; and 6 poster stamps (Burton Holmes Travelogue Series) (57820).
- PERRY**, Mrs. R. Ross, Washington, D. C.: A framed sampler made in Scotland by Jean Boyle about 125 years ago (58425: loan).
- PERTH, WESTERN AUSTRALIA, WESTERN AUSTRALIAN MUSEUM AND ART GALLERY**: 21 bird skins from Australia (57201: exchange).
- PETERSON**, WILLIAM C., Canaveral, Fla.: Cottonrat, *Sigmodon hispidus* (58055).
- PFEIFFER**, Miss NORMA E., University of Chicago, Chicago, Ill.: Specimen of phanerogam, *Thysmia americana*, from the vicinity of Chicago (57469).
- PHILADELPHIA COMMERCIAL MUSEUM**, Philadelphia, Pa.: Specimen of silk gut and 5 samples of commercial silk cocoons (57520).
- PHILIP**, Hon. HOFFMAN: 26 ethnological objects from Abyssinia (57746; 58109). Loan.
- PHILIPPINE ISLANDS, GOVERNMENT OF THE**, Manila, P. I.:
Executive Bureau: 2 stamps of the Philippine Islands, consisting of a 4-centavo regular postage stamp and a 20-centavo special delivery stamp—received through the Bureau of Insular Affairs, War Department (57346).
Bureau of Science: 5,740 specimens of plants from the Philippine Islands (57349; 57436; 57515; 57989; 58414); 120 specimens of plants collected in Kamerun by Zenker and 170 specimens chiefly from China (57397). Exchange.
University of the Philippines: 11 specimens, representing 11 species, of Philippine Alcyonaria (57376: exchange).
- PHOTOTYPE ENGRAVING COMPANY**, Philadelphia, Pa. (through Mr. L. R. Benedict): 27 halftones, duotones, photographs and progressive color proofs (58043).
- PIKE MANUFACTURING COMPANY**, Pike, N. H.: Miscellaneous collection of abrasives (57977).
- PILLING**, Mrs. ELIZABETH C., Washington, D. C.: An oil painting, "Fisher Girl of Picardy," by Miss Elizabeth Nourse, presented by Mrs. Pilling in memory of her husband, John Walter Pilling (58041).
- PILSBRY**, Dr. H. A., Academy of Natural Sciences, Philadelphia, Pa.: 11 specimens of mollusk, *Sonorella*, from Arizona, topotypes of species not hitherto represented in the Museum collections (58096).
- PINE RUN COAL COMPANY**, New Bethlehem, Pa.: Cube of Upper Kittanning cannel coal (57975).

PIPER, Prof. C. V., Bureau of Plant Industry, Washington, D. C.: Fragments of types of 3 species of sedges, *Carex* (58381).

PITTIER, Prof. H., Bureau of Plant Industry, Washington, D. C.: 6 living specimens of cacti from the Canal Zone (57190); lantern-fly, *Fulgoria lanternaria* (57256); land shell from Gatun Lake, Panama, at the foot of Sta. Rita Mountains (58319); 9 skeins of artificial silk yarns manufactured in Frankfort, Germany (58523); 18 specimens of wood collected in Panama by Prof. Pittier (58530; collected for the Museum).

PITTSBURGH COAL COMPANY, Pittsburgh, Pa.: 3 sample cubes of coal—Pittsburgh domestic coal, Youghiogheny gas coal and Pittsburgh steam coal (57978).

PITTSBURGH CRUSHED STEEL COMPANY, Pittsburgh, Pa.: Various crushed steel products (58307).

POND, Dr. ELINOR, Manila, P. I.: Corals, sea urchins, a starfish, mollusks and fossils (57211).

PORTER, Prof. CARLOS E., Santiago, Chile: 10 amphipods, *Hyaella azteca inermis*, from Santiago (57880).

PORTER, Mrs. H. K., Washington, D. C.: Collection of bags, brocades, embroideries, appliques, etc., and 41 bonnets of the 19th century (57776); collection of laces, embroideries and brocades (58000). Loan.

POST, E. J., Tampa, Fla.: A powder horn and a bark blanket of the Patuca Indians, Honduras (57466); about 100 specimens of silicified fossils from the siliceous beds at Ballast Point, Tampa Bay (Oligocene age) (57474).

POST OFFICE DEPARTMENT: 14 sets of specimen stamps, etc., in triplicate (approximately 2,943 specimens), received from the International Bureau of the Universal Postal Union, Berne, Switzerland (57659; 57818; 58040; 58178; 58352; 58418); 48 specimen stamps, etc., and 5 speci-

mens of ordinary postage stamps and 4 of official postage stamps of the Republic of Liberia, received from the International Bureau of the Universal Postal Union, Berne, Switzerland (57927; 58179); 4 sample postage stamps received from the State Department, issued by the Patriotic Postage Stamp Office of St. Petersburg, Russia, as a means of raising funds for the benefit of the families and orphans of the soldiers killed or wounded during the present European war (57946); 1,160 United States imperforate 1¢ stamps, 400 of which are from ordinary plate, 400 from coil plate and 360 from stamp book plate, and 170 imperforate 2¢ stamps from rotary plate (58120); a set of die proofs (413 specimens), unmounted, of the various issues of United States postage stamps, 1847-1914, similar to the set prepared by the Post Office Department for exhibition at the Panama-Pacific Exposition (58223).

PRESTON, Mrs. FRANCES F. CLEVELAND, Princeton, N. J.: A brocade silk-and-velvet gown worn by the lender at the White House (57843; loan).

PRETZ, HAROLD W., Allentown, Pa.: 22 specimens of plants from Florida (57626).

PROVINCIAL MUSEUM. (See under Halifax, Nova Scotia.)

PURDY, Mrs. C. V., Washington, D. C.: An oil painting by Thomas Cole, entitled "Autumn"—one of a series of four paintings of the seasons (58471; loan).

PURVIS, J. M., Turners, Fla.: A fossil tooth from Florida (57314).

QUAKER LACE COMPANY, Philadelphia, Pa.: A series of specimens and photographs illustrating the manufacture of machine-made laces and lace curtains (58072).

QUETTA, BALUCHISTAN, INDIA, McMAHON MUSEUM (through Mr. W. D. Cumming, curator): 10 snakes (57842).

- RAINEY, W. J., New York City: Lump of coal (58083).
- RAMSDEN, CHARLES T., Guantanamo, Cuba: 7 Cuban crustaceans representing 5 species (57940).
- RANDOLPH, MRS. WILLIAM MANN. (See under Miss Cornelia J. Taylor.)
- RATHBUN, MISS MARY J., U. S. National Museum: 32 specimens, representing 2 species, of marine mollusks from Portrush, Ireland (57453); specimens of mollusk, *Polygyra albolabris*, from Sugar Loaf Mountain, Md. (57496).
- RATHBUN, MRS. RICHARD, Washington, D. C.: A five-dollar Massachusetts bill of the issue of May 5, 1780 (58044).
- RAVENEL, W. DE C., U. S. National Museum: Official souvenir bronze medal of the Panama-Pacific International Exposition, San Francisco, 1915 (58203).
- READ, A. C., Santa Barbara, Isle of Pines, West Indies: Skin of Jamaican mockingbird, *Mimus polyglottos orpheus*, from the Isle of Pines (58346).
- READING, MRS. FANNIE W., Washington, D. C.: 7 ethnological objects from the western part of the United States (57225: loan).
- REDFIELD, MRS. J. M., Marshall, Mich.: A slab of Marshall sandstone (58396).
- REED, E. L., College Station, Tex.: Specimen of sundew, *Drosera annua*, from Texas (58533).
- REED, LEON F., New York City: Moth, *Philosamia cynthia* (57260).
- REGAN, JAMES, 3RD, Washington, D. C.: A Colt's revolver (57235).
- REGINA LACE COMPANY, Central Falls, R. I.: 2 half-yard samples of lace made with artificial silk (57360).
- REID, MRS. BRUCE, Port Arthur, Tex.: Double nest of Baltimore oriole, *Icterus galbula*, from Texas (57987).
- REMINGTON ARMS-UNION METALLIC CARTRIDGE COMPANY, New York City: Remington repeating shotgun, model 10 (58274).
- RENDALL, R. J., & Co., New York City: Sample of wool crêpe dress goods, Lupin's "Frisoline" (57204).
- REPUBLIC IRON & STEEL COMPANY, Birmingham, Ala. (through Prof. Eugene A. Smith): 8 samples of iron ore (red ore) illustrating changes in character, selected by Mr. G. G. Dobbs (57734).
- RICE, ARTHUR P., Brookline, Mass.: An old Maya drum, called "Sacatan" (58025).
- RICHARDS, GRACIE K., Washington, D. C.: 6 Cashmere shawls (58385).
- RICHARDS, DR. T. W., U. S. Navy: 4 bird skins from Cuba (58158).
- RICHARDSON, COL. W. P. (See under W. A. Dickey and George Treat.)
- RICHMOND, CHARLES W., U. S. National Museum: 3 mounted birds, including the type of *Nyctea scandiaca*, var. *arctica* (57602).
- RIDDALL, H. K., Goodsprings, Nev.: 3 samples of gold-platinum ore from southern Nevada (58427).
- RIDDING, W. E., Guatemala, Guatemala: Humming-bird moth, *Epistor lugubris* (57560).
- RIDGWAY, ROBERT, U. S. National Museum: Screech owl, *Otus asio*, and 2 flying squirrels, from Illinois (57665); reptiles, batrachians, crustaceans, mollusks, fishes, insects and mammals, from Olney, Ill. (57724).
- RILEY, J. H., U. S. National Museum: 20 bird skins from Erlangen, Bavaria (57319); 15 small mammals and 3 bird skins, from Virginia (57593; 57741).
- RIMMER, MISS CAROLINE HUNT, Lexington, Mass.: Original cast of the statue "The Falling Gladiator," by Dr. William Rimmer, father of the donor (58275).
- RIPLEY, MISS MARIE, Andover, Mass.: Headdress of Mrs. Franklin Pierce, 1853-1857 (57222: loan).
- RITTER, PROF. W. E., La Jolla, Cal.: 2 specimens of crinoid, *Florometra serratifolia*, from off San Diego, Cal. (58468: exchange).

- ROBERTS, W. F., Washington, D. C.: Snake, *Coluber obsoletus*, from Alexandria County, Va. (57161).
- ROBERTSON, J. D., Ocala, Fla. (through Dr. O. P. Hay): An upper molar of a fossil species of tapir, *Tapiris ter-ristris*, and a lower molar of a fossil horse, *Equus leidy* (57961).
- ROBINSON, Lt. Col. W., U. S. Army, West Point, N. Y.: A small collection of insects from Bagulo, P. I. (57896).
- ROCKY MOUNTAINS PARK MUSEUM, Banff, Alberta, Canada (through Mr. N. B. Sanson, curator): Land and fresh-water shells from Alberta (57760).
- ROE, JOHN MCKINSTER, Venice, Fla.: Sea-crab, *Calappa flammea*, from the Gulf of Mexico (57811).
- ROEBLING, WASHINGTON A., Trenton, N. J.: A nugget of osmiridium from Australia (57711).
- ROFKAR, W. F., Port Clinton, Ohio: Box turtle from the District of Columbia (57914).
- ROIG, DR. MARIO SANCHEZ, Havana, Cuba: 10 crustaceans, consisting of 6 specimens of *Cambarus cubensis rivalis*, 3 of *Cambarus cubensis* and 1 of *Epilobocera cubensis* (58046).
- ROOT, F. M., Johns Hopkins University, Baltimore, Md.: Crustacean, *Pinnixa cylindrica* (58045).
- ROSE, DR. J. N., Carnegie Institution of Washington, Washington, D. C., and WALTER DEANE: 15 living specimens of cactus, *Opuntia opuntia*, from Virginia (58231: collected for the Museum).
- ROSE, DR. and Mrs. J. N.: Shells, representing about 32 species, from the beach at Antofagasta, Chile (57663).
- ROSENBERG, E., Copenhagen, Denmark (through Dr. A. G. Böving): Bred life-history material of beetles, representing 94 species (57679); biological material of 68 species of Coleoptera (58512).
- ROSENBERG, W. F. H., London, England: Skin of Allen's gallinule, *Porphyriola alleni* (57447: purchase).
- ROSS AND REPUBLIC MARBLE COMPANY, Knoxville, Tenn. (through Dr. T. Nelson Dale): A fine exhibition specimen of marble with fossils, from the company's quarry at Luttrell, Tenn. (57541).
- ROYAL BOTANIC GARDENS. (See under Kew, London, England.)
- ROYAL BOTANICAL GARDEN. (See under Palermo, Italy.)
- RUSSELL, B. R., San Saba, Tex.: 7 living specimens of Cactaceæ from San Saba (58234: exchange).
- RUST, H. J., Coeur d'Alene, Idaho: 10 specimens of plants from Idaho (58047); 18 specimens of willows, *Salix*, from Idaho, received through the Bureau of Plant Industry, Washington, D. C. (58156).
- RUTH, Prof. ALBERT, Polytechnic, Tex.: 156 specimens of plants from Texas (57179; 57191; 57313; 57704; 57786); 5 specimens of phanerogams, *Laciniaria*, from Tennessee (57335: exchange).
- RUTH, JOHN A., Clifton, N. J.: 20 specimens of plants from New Jersey (57922).
- RUTLEDGE, H. C., Piney Flats, Tenn.: 2 specimens of beetle, *Dynastes tityus* (58111).
- RUTOT, Prof. A., Musée Royal d'Histoire Naturelle de Belgique, Brussels, Belgium: A series of neolithic stone implements from Splennes and northern Belgium (85 originals and 5 casts) (57396: exchange).
- RUXTON, PHILIP, INCORPORATED, St. Paul, Minn.: 39 specimens used in the manufacture of printing ink and 22 photographs, collected and arranged by Mr. Harry S. Thompson (58266).
- SALL MOUNTAIN COMPANY, Chicago, Ill.: Miscellaneous collection of asbestos products (57830).
- SALT'S, HOUSE OF, INCORPORATED, New York City: 7 specimens of textile fur fabrics (57283).
- SÃO PAULO, BRAZIL, MUSEU PAULISTA (through Dr. H. von Ihering, director): 68 Brazilian crustaceans (57932).

- SASKATCHEWAN DEPARTMENT OF AGRICULTURE, Regina, Saskatchewan, Canada (through Mr. H. H. Mitchell): Rabbit, *Sylvilagus nuttalli grangeri* (57840).
- SATCHWELL, Mrs. M. W., Jacksonville, Fla.: 2 specimens of *Botrychium obliquum*, from Florida (58152).
- SAVAGE, Mrs. José R. F., San Juan, P. R. (through Mrs. Julian James): A gray silk Quaker bonnet (58252: loan).
- SCHMID, EDWARD S., Washington, D. C.: 2 skeletons of birds, *Gracula intermedia* and *Kittacincta* sp. (57181); Wilson's petrel, *Oceanites oceanicus*, from Marshall Hall, Md. (57254); Bodinus' parrot, *Amazona bodini*, with body skeleton (57604); Sallé's parrot, *Amazona ventralis* (57666); skeleton of a macaw, *Ara ararauna* (57839); a "New Zealand rabbit" (58080); chopi boat-tail, *Gnortompsar chopi*, from South America (58103).
- SCHMITT, H. RUDOLF, Chevy Chase, D. C.: 2 butterflies from Brazil (58060).
- SCHRAMMEN, Dr. A., Hildeshelm, Germany: 85 specimens, representing 54 species, of Mesozoic sponges (57212: exchange).
- SCHUH, Prof. R. E., Howard University, Washington, D. C.: 2 oysters from Eggmoggin Beach, Penobscot Bay (57461).
- SCHUMACHER, F., AND COMPANY, New York City: A 2-yard length of Shakespeare cretonne (57521).
- SCHWARZ, Dr. E. A., and R. C. SHANNON, Bureau of Entomology, Washington, D. C.: About 300 insects collected at Plummer's Island, Md. (57690).
- SCIDMORE, Miss ELIZA R., Washington, D. C.: 33 specimens of Chinese and Japanese porcelains (57384: loan).
- SEIDELL, F. W., Sedro Woolley, Wash.: Samples of talcose and actinolitic schist (57209).
- SEMET-SOLVAY COMPANY, Syracuse, N. Y.: 16 specimens of coal products (57871).
- SHANNON, R. C., Bureau of Entomology, Washington, D. C.: Salamander from Maryland (57369); 2,000 Diptera from the vicinity of Washington (57691); wood-rat and turtle from Virginia (57707; 58247). (See under E. A. Schwarz.)
- SHEIP & VANDEGRIFF, INCORPORATED, Philadelphia, Pa.: 2 series, of 4 specimens each, showing the manufacture of oak and spruce phonograph horns (58386).
- SHELDON, C., Woodstock, Vt. (through Bureau of Biological Survey, Washington, D. C.): Nest and 5 eggs of ruby-crowned kinglet, *Regulus calendula*, and 3 eggs of Cooper's hawk, *Accipiter cooperi*, from Vermont (58387).
- SHELDON, JOHN L., Morgantown, W. Va.: Specimen of phanerogam, *Eruca eruca*, from West Virginia (57589).
- SHEPARD, CHARLES U., Summerville, S. C.: A fragment, weighing 112 grams, of the Waconda meteoric stone, from the Shepard collection of meteorites (58261: exchange).
- SHEPHERD, Col. C. S., Kensington, London, England: A set of otoliths of fish, *Notopterus chittala*, from India (57293: exchange).
- SHEPHERD, Prof. E. S., Carnegie Institution of Washington, Washington, D. C.: 2 snakes and a frog, from California (57917); 5 snakes from California, District of Columbia, and New York (58367).
- SHIPPY, N. D., Goldfield, Nev.: Specimen of corundum from California (57431); native sulphur and stibnite, from Nevada (57624).
- SHOEMAKER, CLARENCE R., U. S. National Museum: 50 amphipods from Little River, D. C. (57324); about 12 crustaceans and a coelenterate, from Chesapeake Beach, Md. (57567); 80 amphipods from the Potomac River (58236); 50 amphipods from Black Pond, Va. (58271).

- SHREVE, Dr. FORREST, Desert Laboratory, Tucson, Ariz.: 6 specimens of plants from Arizona (57169; 57312; 57757).
- SHUFELDT, Dr. R. W., Washington, D. C.: Nest and a young of oven bird, *Seiurus aurocapillus*, from Virginia (57176); 27 photographs representing the methods of taxidermy as practiced in the Leiden Museum, 1897, 1898 (57605).
- SILVA, Dr. SIMOENS DA, Rio de Janeiro, Brazil: Stone ax, probably natural form, from the State of Bahia, Brazil (57684).
- SIMPSON, W. W., Shanghai, China: 5 skins and 3 skulls of deer, *Cervus*, a specimen of musk deer, *Moschus*, and 1 of bear, *Ursus*, all from Kansu, western China (57732: purchase).
- SLATER, Mrs. H. D., El Paso, Tex.: 2 specimens of plants from New Mexico (57425); 5 photographs of New Mexican plants (58185).
- SLATER, WILLIAM A., Washington, D. C.: 23 oil paintings (58282: loan).
- SLAYMAKER, J. J., Beaumont, Tex. (through Dr. David White): 3 specimens of a petrified fern stem (57889).
- SMITH, Miss CLARA FARRAR, Washington, D. C.: 2 pieces of Venetian rose point lace (58269: loan); India shawl (58328).
- SMITH, E. ARNETT, London, Ohio: Portrait, water color, of George Washington, by James Peale (57221: loan).
- SMITH, Dr. ERWIN, U. S. Department of Agriculture, Washington, D. C.: 6 crustaceans collected by Mr. J. R. Johnston in the West Indies (57759).
- SMITH, HARRISON E., U. S. Entomological Laboratory, West Springfield, Mass.: Type of female and allotype of male of fly, *Saskatchewania canadensis* (58081); 3 Diptera, consisting of type of *Phasia phasiatrata*, holotype of *Neopales noctuiformis*, and paratype of *Gonia distincta* (58095).
- SMITH, Prof. H. H., University, Ala.: 425 specimens of plants from Colombia (58433: purchase).
- SMITH, Capt. JOHN DONNELL, Baltimore, Md.: 16 specimens of plants from Central America (58049).
- SMITH, Rev. MILLARD H., Candler, N. C.: 39 arrowpoints and spearheads from North Carolina (57524); 25 arrowpoints of quartz and flint, a grooved ax, a drilled piece of soapstone and a fragment of a soapstone vessel, from Hiawasee, Ga. (58480).
- SMITH, THOMAS JEFFERSON, Bardstown, Ky. (through Mrs. Richard McConathy): United States gold coin—half dollar of 1870 (57683).
- SMITH & WESSON, Springfield, Mass.: An automatic pistol (58037).
- SMITHSONIAN INSTITUTION:
About 5,000 specimens of Cambrian fossils from China (57813); costumes and parts of costumes—specimens of the typical Quaker garb worn in the early and middle part of the 19th century—presented to the Institution by Dr. Anna P. Sharpless, of Philadelphia, Pa. (58288).
- Bureau of American Ethnology:*
Model of a Cherokee packing basket, collected by Mr. James Mooney on the East Cherokee Reservation, Swain County, N. C., in 1914 (57699); 179 archeological objects and skeletons, collected by Dr. J. Walter Fewkes in the Lower Mimbres Valley, N. Mex., in 1914, and an earthenware vase from Casas Grandes, Chihuahua, Mexico, donated by Dr. Fewkes (57777); 3 stone figurines collected by Mrs. M. C. Stevenson among the Tewa Indians of New Mexico (58129); 5 archeological specimens and fragments of a human skeleton, from a grave near Newsoms, Va., received from Dr. W. B. Barham as a gift from himself, Mrs. J. R. Kello and Miss Mattie Kello (58177); a snipe flute forwarded to the Bureau by the Rev. A. McG. Beede, Sioux County, N. Dak. (58254).

SMITHSONIAN INSTITUTION—Contd.

National Museum, collected by members of the staff: Bartsch, Paul: 5 bats, *Macrotus waterhousei minor*, from Mulata, Cuba (57355); 6 living specimens of Cactaceæ from Cuba (57575). Bassler, R. S.: Tertiary bryozoans from the Southern States, representing 20 formations and localities (57183). Bean, B. A.: Young examples of the hammerhead shark, sharp-nosed shark, stingaree, sucking fish or remora, smooth puffer, sea robins, etc., collected at Ocean City, Md. (57274). Gilmore, C. W.: 13 concretions, 2 lots of invertebrate fossils, and various teeth, bones, etc., of vertebrate fossils from the Judith River, Claggett, and Eagle formations; 3 nearly complete and 4 partial Indian skeletons (57557). Hrdlička, Aleš: Samples of hair of white Americans of at least three generations on each side of the family, and of other races (250 specimens) (58224). Maxon, William R., and Paul C. Standley: 160 specimens of plants from the District of Columbia and vicinity (58451). Merrill, George P.: Marble and associated rocks from near Marble, Colo. (57493). Resser, C. E.: Calcite from Ram's Horn Cavern, White Sulphur Spring, Mont. (57556). Standley, Paul C.: 375 specimens of plants from Maryland and Virginia (58402). Standley, Paul C., and H. C. Bollman: 790 specimens of plants, 5 mammals and a lizard, from Rio Arriba County, N. Mex. (57399). Wood, N. R.: Reptiles, batrachians and an insect, from Florida (58110).

National Museum, made in the Laboratory of Mineral Technology: Model of typical gypsum plant, 8 feet by 10 feet (58514); model 16 feet long by 22 inches wide, showing the mining of salt and, as carried on by the Solvay Process Company, Syracuse, its manufacture into sodium compounds (58515).

National Zoological Park: 8 skeletons of birds, consisting of Victoria crowned pigeon, *Goura victoria*;

SMITHSONIAN INSTITUTION—Contd.

keel-billed toucan, *Ramphastos brevicarinatus*; 2 specimens of crested screamer, *Chauna torquata*; Swainson's hawk, *Buteo swainsoni*; 2 specimens of European flamingo, *Phenicopterus roseus*; reddish egret, *Dichromanassa rufescens* (57182); Texas lynx (57388); Arabian baboon (57438); galago and a gray coatl mundi (57460); serval, dorcas gazelle, wombat, Alaska brown bear and a vicugna (57550); pine marten (57594); tapir (57755); white-fronted parrot, *Amazona albifrons*; curassow, *Crax fasciolata*; cockateel, *Calopsitta nova hollandiae* (with body skeleton) (57788); cougar and a brown macaque (57821); muscovy duck, *Cairina moschata*; snow pigeon, *Columba leuconota*; black-backed porphyrio, *Porphyrio melanotus* (57846); macaque and a Patagonian cavy (57863); albino opossum (57945); lion (58017); Florida lynx or wild cat (58051); jaguar and an African palm civet (58073); Florida otter (58162); red-backed hawk, *Buteo erythronotus* (58222); weka rail, *Ocydromus australis* (58340); snake, *Python reticulatus* (58484).

SMOKY HOLLOW COAL COMPANY, Avery, Iowa: Lump of coal (58088).

SNIDER, M. F., Internal Revenue Bureau, Washington, D. C.: 13 brass Internal Revenue tags, used between 1862 and 1867 for marking bales of cotton upon which the tax had been paid (57729).

SOAB, CHARLES HENRY, Balboa Heights, Canal Zone: 3 metal objects—1 of gold and 2 of copper gilt—from Chiriqui, Province of Panama, south of boundary of Costa Rica (58333: purchase).

SOLVAY PROCESS COMPANY, THE, Syracuse, N. Y.: Miscellaneous collection of raw materials and finished products (57872); 8 photographic enlargements of views of salt wells and soda works of the Solvay Process Company (58517).

SORRELLS, C. M., U. S. National Museum: A Colt's revolver, caliber .38 (57855).

SOUTH AFRICAN MUSEUM, Cape Town, Union of South Africa (through Dr. Louis A. Peringuey, director): 2 pieces of meteoric iron, the Bethany (137.9 grams) and the Matatiele (73.7 grams), and 1 piece of meteoric stone, St. Mark's (257.7 grams) (58164: exchange).

SOUTH BEND WATCH COMPANY, South Bend, Ind.: "Chesterfield" watch (58201).

SOUTH DAKOTA, UNIVERSITY OF, Vermillion, S. Dak. (through Prof. W. H. Over): 515 specimens of plants from South Dakota (57510; 57647; 57717; 57985).

SOUTHERLAND, MRS. MARY RODMAN, Washington, D. C.: Watch movement made by Edouard Perregaux, Locle, Switzerland (57644).

SOWEBBY, ARTHUR DEC., Tientsin, China: 99 mammals, 239 birds, 29 reptiles, 48 fishes, a collection of insects, and a crayfish, from Manchuria and northeastern China (57340; 57529; 58121; 58149; 58378). Collected for the Museum.

SPRINGER, HON. FRANK, East Las Vegas, N. Mex.: 9 crinoids, namely, 2 specimens of *Nemaster townensis*, cotypha, and 7 specimens of *Cocco-metra hagenii*, from Florida (58388).

SQUIRES, GRANT, New York City: 6 Chinese postage and 7 postage due stamps (58350: exchange).

STABLER, H. B., Baltimore, Md.: Arctic 3-toed woodpecker, *Picoides arcticus*, from Maine (57601).

STANDARD OIL CLOTH COMPANY, INC., THE, New York City: A series of specimens and photographs illustrating the manufacture and use of oil cloth (57750).

STANDARD SLATE CORPORATION, Esmont, Va.: 6 samples of roofing slate, 8 inches by 8 inches (57178).

STANDLEY, PAUL C., U. S. National Museum: 73 specimens of plants from Loudoun County, Va. (57243; 58401).

STATE, DEPARTMENT OF:

Chinese bamboo oil lamp from the South Fukien Province, with some of the wick and a sample of the grass, collected by Lester Maynard, American consul, Amoy, China (57511).

STEAD, DR. DAVID G., Royal Commissioner of Fisheries, Sydney, New South Wales: 5 photographs of crustaceans (58030).

STEARNS, COMMANDER C. D., U. S. Navy: 22 specimens of ferns from Samoa (57162); collection of Samoan and Gilbert Island ethnological specimens, including several fine mats (58470: loan).

STEARNS, JOHN N., & Co., New York City: 7 bobbins and 20 skeins of thrown silk; 12 samples of finished dress silks (58394).

STEELE, E. S., U. S. National Museum: 515 specimens of plants from the District of Columbia and vicinity (57791).

STEPHENSON, JOHN W., New York City: Collection of small named samples of upholstery fabrics (58430).

STEPHENSON, DR. L. W., U. S. Geological Survey, Washington, D. C.: About 500 specimens of Tertiary fossils (57542).

STERRETT, DOUGLAS B., U. S. Geological Survey, Washington, D. C.: Samples of apatite and a specimen of triphylite, from New Hampshire (57483; 57502). Collected for the Museum. (See under Alexander A. Anzell.)

STEWART, MR. and MRS. JOHN, New York City (through Hon. Henry White, Washington, D. C.): A 15th century Flemish tapestry with circular centerpiece representing the departure of the caravels of Columbus from Palos, Spain, bordered by an inscription and ornamental and emblematic designs (58168: loan).

STICHT, ROBERT, Mt. Lyell, Tasmania: A specimen of stichtite from near Dundas, Tasmania (57726).

- STOCKHOLM, SWEDEN, NATURHISTORISKA RIKSMUSEUM, ETNOGRAFISKA AFDELNINGEN (through Prof. C. V. Hartman): 166 archeological stone implements from the United States, Alaska, and other localities; also 25 plaster casts of stone implements (57262: exchange).
- STOWE, H. E., Washington, D. C.: A Wesson and Harrington revolver (57928).
- STURTEVANT, EL. D., Hollywood, Cal.: 2 living specimens of Cactaceæ (58277: exchange).
- SULZER, CHARLES A., Sulzer, Alaska: Samples of barium sulphate from Lime Point, Sulzer (57199).
- SUMNER, MRS. ELLEN P., Dogue, Va.: Child's white linen pantalettes, of about the middle of the 19th century (58415: loan).
- SUPERIOR COAL COMPANY, Glen Campbell, Pa.: A cube of coal (58518).
- SUPERIOR THREAD AND YARN COMPANY, New York City: Sample of prepared ramie fiber, "Stycos Wool Substitute" (57996).
- SURFACE, HENRY E., Madison, Wis.: 4 photographs of a humpback whale (57714).
- SUSQUEHANNA COAL COMPANY, Shamokin, Pa.: Cube of coal from Cameron colliery (57976).
- SWIGERT, R. G., Portland, Oreg.: Adult dragonfly, *Æschna californica* (58360).
- SYDNEY, NEW SOUTH WALES, AUSTRALIA, BOTANIC GARDENS (through Mr. J. H. Maiden, director): 300 specimens of plants from Australia (57667; 57858; 57983). Exchange.
- SYDNEY, NEW SOUTH WALES, AUSTRALIA, DEPARTMENT OF MINES: A 200-gram slice of the Delegate, New South Wales, meteoric iron (57962).
- TAFFERTY, J. V., Paracale, Luzon Island, P. I. (through Mr. Horace R. Burritt, Portland, Oreg.): A specimen of native gold with native silver, from Luzon (58376).
- TAYLOR, MISS CORNELIA J., and Mrs. WILLIAM MANN RANDOLPH, Charlottesville, Va.: 8 articles of wearing apparel used by Thomas Jefferson, received from two of his descendants (58437: loan).
- TAYLOR, MRS. JULIA ISHAM. (See under Samuel Isham, Estate of.)
- TEESDALE, CLYDE H., Forest Service, Madison, Wis.: Specimen of creosoted pine pile infested with crustacean, *Sphæroma quadridentatum*; also a vial containing specimens of *Sphæroma* (57915); 7 specimens of a marine mollusk, *Martesia cuneiformis*, from Pensacola, Fla. (57933).
- TEETER, M. W., Warminster, Va.: Specimen of rhinoceros beetle (57143).
- TEMPANY, H. A., St. John, Antigua (through Dr. T. Wayland Vaughan): A collection of fossil wood from Antigua (57640).
- TEYSSIER, HENRY, Clermont-Ferrand, France: 13 specimens of plants from France (57299).
- THOM, CORCORAN, Washington, D. C. (through Dr. Alexander Graham Bell): An aeroplane dart (58375).
- THOMPSON, DR. J. C., U. S. Navy, Sausalito, Cal.: Reptiles from Mexico and California (57198; 57838).
- THROPP, JOSEPH E., Earlston, Pa.: 3 samples of coal (57906).
- TIDESTROM, IVAR, Bureau of Plant Industry, Washington, D. C.: 334 specimens of plants, mainly from the eastern part of the United States (57242; 57434; 57789; 57857; 57958; 58155).
- TIERNEY, LEWIS E., Anacostia, D. C.: Nest of a hymenopteron from near Silver Hill, Md. (58239).
- TOEPPER AND SCHROFF, New York City: 3 designs in water colors for printing on silk (57395).
- TOLMAN, R. P., U. S. National Museum: 284 specimens illustrating the graphic arts, including magazines, photomechanical reliefs, chromolithographs, collotypes, photomechanical intaglios, engravings, photographs, halftones, etc. (58127).

- TOPPING, D. LeROY, Bureau of the Treasury, Manila, P. I.: 50 specimens of ferns from the Philippine Islands (57514); about 2,500 specimens of phanerogams mainly from New York and the vicinity of Washington, D. C. (57621).
- TORRE BUENO, J. R. DE LA, White Plains, N. Y.: A small collection of insects (57196).
- TOWNSEND, Dr. C. H. T., Bureau of Entomology, Washington, D. C.: A lizard, 9 reptiles, and 6 Diptera (including type and cotypes of *Phlebotomus verrucarum*), from Peru (57240; 57276; 57504); 8 Diptera, types of *Anastrepha peruviana* and *Acucuba saltans* (57561); 51 specimens of plants from Peru and New Hampshire (57583); type of dipteran, *Synthesiostrebla amorphochili* (57635); 118 slides of Peruvian muscoid maggots and eggs; 443 vials of complete male and female reproductive systems; 3,000 adult Diptera, mostly Peruvian muscoidae, including types and paratypes of 157 new species, about 400 types of dissections, and 100 European Diptera determined by Bezzi (57897).
- TREADWELL, Dr. AABON L., Vassar College, Poughkeepsie, N. Y.: 11 annelids from Dry Tortugas, Fla., consisting of a specimen each of *Leodice longisetis*, *L. mutilata*, and *L. fucata*, 3 of *Marphysa fragilis*, 1 of *Aglaurides diphyllidia*, 2 of *Polynoe granulata*, and 2 of *Hermenia verruculosa* (57875: exchange).
- TREASURY DEPARTMENT:
A sample of artificial sperrylite from the San Francisco Mint, received through Mr. Frederic P. Dewey, acting director of the Mint (57831).
- TREAT, GEORGE, Valdez, Alaska (through Col. W. P. Richardson, U. S. Army): An oil painting by Sydney M. Laurence, "The Trapper" (58011: loan).
- TRENIS, O. J., Washington, D. C.: Skin of a barred owl, *Strix nebulosa*, from Washington (58147).
- TRESCOT, Miss SALLIE McC., Pendleton, S. C. (through Mrs. E. W. Trescot, Washington, D. C.): Piece of Chinese embroidery, purchased by Mr. William Henry Trescot (father of Miss Trescot) in the Imperial Palace, Pekin, while he was one of three commissioners on a diplomatic mission to the Chinese Government in 1880 (58460: loan).
- TREUIL, Miss EUNICE, Junior, La.: Specimen of orchid, *Epidendrum*, from Louisiana (57279).
- TRICE, W. E., Cotton Plant, Ark.: Bannerstone of rose quartz, found on a farm in Woodruff County, Ark. (57949: purchase).
- TUCKER, T. S., Mullins, S. C.: Ground dove, *Chamepelia passerina terrestris*, from South Carolina (57948).
- TUCKERMAN, Miss EMILY, Washington, D. C.: Square of purple cut velvet with brocade border, period of Louis XVI, and an embroidered waistcoat (57774: loan).
- TUCKERMAN, Miss LAURA WOLCOTT (through Mr. and Mrs. Walter R. Tuckerman, Edgewood, Md.): Silver tea set of 5 pieces, which belonged to Laura Wolcott, daughter of Oliver Wolcott, one of the signers of the Declaration of Independence (57783: loan).
- TUCKERMAN, Mrs. WALTER R., Edgewood, Md.: Piece of Rhodian embroidery, piece of Empire tapestry, and a square of Genoese velvet with fringe (58225: loan).
- TWEEDLIE, ROBERT, Paraiso, Canal Zone: Collection of fishes, crustaceans and an octopus, from Chame Point, Canal Zone (57273: collected for the Museum).
- TYRRELL, J. B., Toronto, Canada: A sample of yukonite (57718).
- TYSON, Miss EDNA, Waycross, Ga.: Moth, *Telea polyphemus* (57426).
- UNIVERSITETETS BOTANISKE MUSEUM. (See under Copenhagen, Denmark.)

- UNIVERSITETETS ZOOLOGISKE MUSEUM.
(See under Copenhagen, Denmark.)
- URITA, T., Kagoshima, Japan: Collection of Japanese crabs (57770; 57803).
- VANDALLA COAL COMPANY, Terre Haute, Ind.: Lump of coal (58084).
- VANDEBILT, Mrs. GEORGE W., Washington, D. C.: 3 oil paintings, namely, "Rouvière in the rôle of Hamlet" and "Le Repos," by Edouard Manet, and "Rosita," by Ignacio Zuloaga (57942: loan).
- VAN DYKE, Dr. E. C., San Francisco, Cal.: 24 beetles, *Cossonus*, representing 7 species, including paratypes of 5 species recently described by Dr. Van Dyke (58364).
- VAN ESELTINE, G. P., U. S. National Museum: 120 specimens of plants from the District of Columbia and vicinity (58206).
- VAN SKOIK, WILLIS C., South Granby, N. Y.: Skull found in a gravel bank (58303).
- VAUGHAN, Dr. T. WAYLAND, U. S. Geological Survey, Washington, D. C.: 5 echinoids, 3 crabs, and a fish, collected by Mr. E. W. Gudger, Tortugas, Fla. (57822); marine invertebrates, a beetle and 5 quart jars of algae, from Tortugas (57943). (See under Sir H. Hesketh J. Bell, W. Maxwell Greene, and H. A. Temperary.)
- VIENNA, AUSTRIA, K. K. NATURHISTORISCHES HOFMUSEUM (through Dr. F. X. Schaffer): About 5,000 specimens of European Paleozoic and Mesozoic invertebrate fossils (57303: exchange).
- VIERECK, HENRY L., State Insectary, Sacramento, Cal.: Land shells from Italy (57526).
- WAIT, GUY L., Lewistown, Mont.: Remains of a Mosasaur, consisting of 50 or more vertebrae, skull, lower jaw and portions of paddles (57248: purchase).
- WALCOTT, Miss HELEN BREESE, Washington, D. C.: Hat worn by Mrs. Helen B. Sanford, Oneida, N. Y., about 1870 (58347).
- WALE, EDWARD, Washington, D. C.: 350 specimens of marine mollusks from various localities (58436).
- WALKER, BRYANT, Detroit, Mich.: 2 specimens of mollusk, *Planorbis multivolvis*, from Howe Lake, Mich., received through Mr. John B. Henderson (57454); 7 specimens of mollusk, *Quadrula kieneriana*, from various localities in Georgia (57892).
- WALKER, Dr. F. V., Bluffton, S. C.: Fly, *Sciapus* species (57421).
- WALLIS, J. D., Winnipeg, Canada: About 65 Microlepidoptera (58199).
- WALPOLE BROTHERS, INC., New York City: An Irish handwoven linen damask tablecloth (57649).
- WALTER, Mrs. MARY T., Washington, D. C.: 9 specimens of plants from Cayuga County, N. Y. (57450).
- WALTON, JESSE S., Pensacola, Fla. (through Mr. R. C. Ballard Thurston, Louisville, Ky.): A powder horn, bullet pouch, measure for powder charge, and dagger with sheath, carried by Capt. William Walton in the War of the Revolution; received from his great-grandson (58220: loan).
- WALTON, W. R., Bureau of Entomology, Washington, D. C.: Fly, *Mauromyia pulla*, from Carlisle, Pa. (57186).
- WANAMAKER, JOHN, New York City: A collection of samples of novelty cotton dress fabrics produced in 1914 by Rodier, the foremost manufacturer of such fabrics in France (58320).
- WANGER, NEWTON, Washington, D. C.: Specimen of the so-called "Ring-rock" (57944).
- WAR DEPARTMENT:
Fragmentary human skulls and bones from a mound in the Shiloh National Military Park, received

WAR DEPARTMENT—Continued.

through Mr. DeLong Rice, secretary and superintendent, Shiloh National Military Park (57449).

Army Medical Museum: 4 aluminum coins, samples of the special coinage used in the Leper Colony on Cullon Island, P. I., received by the Army Medical Museum from the Government of the Philippine Islands (57845).

Office of the Chief of Ordnance: U. S. magazine rifle, model of 1903, adapted for use by marksmen in national rifle matches (57516).

WARD, MRS. MARGARET I., Rushton, Mich.: Egg of a hybrid duck (58226).

WARD'S NATURAL SCIENCE ESTABLISHMENT, Rochester, N. Y.: Skeleton of an aye-aye from Madagascar (58439: purchase).

WARNER, J. C., Miami, Fla.: Bug, *Phymata erosa*, subspecies *fasciata* (57481); larva of a moth of the family Limacodidae (58066).

WARREN FEATHERBONE COMPANY, THE, Three Oaks, Mich.: 12 specimens illustrating the manufacture of featherbone (57446).

WASHINGTON, C. S., U. S. National Museum: Bat, *Lasionycteris noctivagans*, from Washington, D. C. (57394).

WASHINGTON, DR. HENRY S., Geophysical Laboratory, Carnegie Institution of Washington, Washington, D. C.: A specimen showing unusual crystals of sulphur, from Cianclana, Girgenti, Sicily (58214).

WASHINGTON SANITARIUM, Takoma Park, D. C.: A static electrical machine (57498).

WATIES, MISS KATE C., Columbia, S. C.: Photograph of Dr. John Bachman, the celebrated naturalist of Charleston, S. C. (57350).

WATKINS, JOHN T., Alexandria, Va.: 2 Costa Rican gold coins, 2 gold ornaments, necklace made of monkeys' teeth, 2 jaguar teeth for personal adornment, a specimen of mastate

WATKINS, JOHN T.—Continued.

fiber and a native pack bag made from the same material, collected by the donor in Costa Rica (58335).

WATSON, J. R., Agricultural Experiment Station, University of Florida, Gainesville, Fla.: 6 slides of Thysanoptera, namely, 2 slides (cotypes) of *Heterothrips salicis* var. *æsculi*, 2 slides (type and cotype) of *Euthrips tritici* var. *profectus*, 1 slide (types) of *Cryptothrips pini* and 1 slide of larvæ (57756).

WEATHERBY, C. A., East Hartford, Conn.: 27 specimens of plants from Connecticut (57139).

WEBB, WALTER D., jr., Washington, D. C.: 3 land planarians from the greenhouses of the Department of Agriculture (57147); 10 specimens of mollusks and crustaceans, collected by Mrs. M. I. Sparks at Cardiff, Cal. (57696); 27 isopods from a small pond on low ground below Chain Bridge, D. C. (57938).

WEBSTER, Prof. F. M., Bureau of Entomology, Washington, D. C.: A piece of builders' paper, one side colored blue; probably the material used by hornets in making the blue stripes in the nest which was presented by Mr. A. D. Addison (58343).

WEEKS, WILLIAM H., jr., Brooklyn, N. Y.: 17 species of land and marine shells, mostly from Australia and Tasmania (57555: exchange).

WEEMS, Ensign P. V. H., U. S. Navy: Lizards, insects, crabs, mollusks and a fish, from Panama (57275; 57351; 57368).

WEICKER, HERMAN G., New York City: 6 bookplates (58021: exchange).

WELSH, ROBERT F., Philadelphia, Pa.: Fern, *Dryopteris*, from New Brunswick (57403).

WENZEL, C. A., Leyte, P. I.: 150 specimens of plants from Leyte (57302: purchase).

WESTERMAN-FILER COMPANY, Sharon, Pa.: A lump of coal (57909).

- WESTERN AUSTRALIAN MUSEUM AND ART GALLERY. (See under Perth, Western Australia.)
- WESTERN COAL AND MINING COMPANY, Lexington, Mo.: A cube of coal (58519).
- WETMORE, ALEX., Bureau of Biological Survey, Washington, D. C.: Bird skin from Great Falls, Va. (57159).
- WHEALTON, Dr. A. W., Chincoteague Island, Va.: Hybrid goose (57965).
- WHEELER, Maj. CHARLES SULLY, Washington, D. C.: Model of a cannon (58410: loan).
- WHEELER, F. E., Washington, D. C.: Virginia rail, *Rallus virginianus*, from Benning Marsh, D. C. (57361).
- WHEELER, H. E., Arkadelphia, Ark.: 7 specimens of land shells, representing 5 species, from China (57420).
- WHERRY, Dr. EDGAR T., U. S. National Museum: 2 specimens of oolite from Bethlehem, Pa. (58265).
- WHITE, Dr. DAVID. (See under W. N. Page, J. J. Slaymaker and W. J. Wilson.)
- WHITE, Hon. HENRY. (See under Mr. and Mrs. John Steward.)
- WHITESSELL, Mrs. MARY A., San Diego, Cal.: 2 blue and white double-woven coverlets (58524: purchase).
- WIELAND, Dr. G. R., Peabody Museum, Yale University, New Haven, Conn.: One of the original types of the fossil alga, *Cryptozoon bassleri* (57523); 30 dinosaurian skin plates, with some fragments (58312).
- WILCOX, Mrs. G. A., Martinez, Cal.: 7 specimens of algae from California (57802).
- WILLIAMS, Mrs. AMBROSE, Washington, D. C.: Adult Cecropia moth and its cocoon, from Washington (58464).
- WILLIAMS, GARDNER, Washington, D. C.: 17 bird skins from South Africa (57886).
- WILLIAMS, H. J., Holtville, Cal.: A nodule of malachite coated with chrysocolla and chalcedony (58211).
- WILLIAMSON, E. B., Bluffton, Ind.: 9 dragonflies, Odonata, of the group Protoneura, representing 7 species
- WILLIAMSON, E. B.—Continued.
(5 of which are represented by paratypes), from British Guiana and Guatemala (57410).
- WILLIAMSON, F. P., Zamboanga, P. I.: Beetle, *Chalcosoma atlas* (57419).
- WILMS, F., Königl. Botanisches Museum, Dahlem-Steglitz (bei Berlin), Germany: 200 specimens of plants collected in Natal by Rudatis, and 170 collected in Nyassaland by Stolz (57321: purchase).
- WILSON, Dr. CHARLES B., State Normal School, Westfield, Mass.: About 175 specimens of parasitic copepods from the donor's private collection (58400).
- WILSON, CHARLES E., Mississippi Agricultural and Mechanical College, Agricultural College, Miss.: About 12 earthworms from a well at Agricultural College (57900).
- WILSON, E. W., Brookland, D. C.: A series of vanadium minerals from Peru (58172: purchase).
- WILSON, FRANK, Salt Lake City, Utah (through Mr. Victor C. Helkes): 2 scheelite crystals from the Wilson Bismuth Mine, Clifton District, Tooele County, Utah (58248).
- WILSON, Miss MARY L., Haverhill, Mass.: Fascicles 1 to 6 (150 specimens) of Tuckerman's Lichenes Americae Septentrionalis Exsiccati (58504).
- WILSON, Mrs. THOMAS HAMILTON, and Miss ABERCROMBIE, Washington, D. C.: (through Mrs. R. G. Hoes): A pair of gloves embroidered in floss (57234); a white linen mitt of the colonial period; and an infant's shirt of white linen trimmed with lace (58474). Loan.
- WILSON, W. J., Geological Survey of Canada, Ottawa, Canada (through Dr. David White): 3 specimens of the fossil plant *Whittleseyia desiderata*, from Nova Scotia (57768).
- WINKLEY, Rev. HENRY W., Danvers, Mass.: Sediment from Beaver Brook, Danvers (57378); 25 specimens of mollusk, *Acmæa testudinalis*, from Eastport, Me. (57472).

- WINLOCK, H. E., Metropolitan Museum of Art, New York City: A collection of ancient Egyptian human bones and domestic sheep and ox bones, and some specimens of modern native Egyptian clothing (57418).
- WOLDEN, B. O., Wallingford, Iowa: 3 specimens of grass, *Panicum*, from Iowa (57166; 57435).
- WOLF TONGUE MINING COMPANY, THE, Boulder, Colo. (through Mr. Frank L. Hess): 2 specimens of tungsten ore (57202).
- WOOD, HORACE N. E., Washington, D. C.: 10 specimens of crustacean, *Eucangonyx gracilia*, collected from a small pond on low ground below Chain Bridge, D. C. (57939).
- WOOD-JONES, DR. F., London, England: About 106 specimens of corals representing about 50 species, and 21 specimens of calcareous algae, millepora, and lithologic specimens from Cocos Islands, Indian Ocean (58454).
- WOOLDRIDGE, EDGAR, Lakeport, Cal.: 16 flint scrapers from village sites at Lakeport (57844).
- WOOLLEY, CLAUDE L., Baltimore, Md.: An aluminum sundial adapted to the latitude of Valencia, Spain (57381).
- WOOLLEY, J., COAL COMPANY, EVANSVILLE, Ind.: A lump of coal (57911).
- WORCESTER WOOLEN MILL COMPANY, THE, Worcester, Mass.: A series of 9 specimens illustrating the processes used in the manufacture of woolen cloth (57348).
- WORCH, HUGO, Washington, D. C.: A collection of pianos of great historical importance (The Hugo Worch Collection), showing every phase of the American pianoforte industry prior to 1850 (58488).
- WREN, CHRISTOPHER, Plymouth, Pa.: Collection of Iroquois pottery fragments (91 specimens) from the Susquehanna River Valley (57429).
- WRIGHT, DR. F. E., Geophysical Laboratory, Carnegie Institution of Washington, Washington, D. C.: Specimens of obsidian from Iceland, illustrating a paper on the origin of spherulitic structure (58191).
- WRIGHT, W. S., San Diego, Cal.: 26 specimens of beetle, *Eleodes neotoma* (57408).
- WURZLOW, E. C., Houma, La.: 7 insects, 4 plants and a lizard, from Louisiana (57155; 57300; 58054; 58210; 58295).
- WYNN, HARRY, U. S. National Museum: Remington revolver (57485); Joslyn breech-loading carbine (58348). Loan.
- YALE PERUVIAN EXPEDITION OF 1914, 1915 (under the auspices of Yale University and the National Geographic Society, Dr. Hiram Bingham, director): 7 specimens of Cactaceae, including 5 living specimens, collected in Peru by Mr. E. C. Erdis (57970); 5 specimens of Cactaceae, 3 of which are living, collected in Bolivia by Mr. Erdis (58183).
- YOUNG, JAMES HAY, Meredith, Victoria, Australia: An Australian aboriginal green stone ax from Glen Forbes on the Bass River, South Gippsland, and 11 stone flakes from Meredith District, Australia, collected by the donor (58496).
- YOUNG, DR. J. LOWE, New York City: A set of plaster casts (upper and lower jaws), showing lower first molars with 6 distinct cusps (58406).
- ZABEL, JOHN H. (See under William H. Forwood.)
- ZETEK, JAMES, Ancon, Canal Zone: Birds, reptiles, batrachians, fishes, mollusks, insects, and invertebrates (57569); fragmentary bones of sloth, *Megatherium* (58494); echinoderm, a small spider crab carrying a sponge, and 40 species (about 130 specimens) of mollusks (58534).
- ZIMMERMAN, MARK E., White Cloud, Kans.: 56 fragments of aboriginal pottery (57585).

LIST OF PUBLICATIONS OF THE U. S. NATIONAL MUSEUM ISSUED DURING THE FISCAL YEAR 1914-1915, AND OF PAPERS PUBLISHED ELSEWHERE WHICH RELATE TO THE COLLECTIONS.

PUBLICATIONS OF THE MUSEUM.

ANNUAL REPORT.

Smithsonian Institution | United States National Museum | — | Report on the progress and condition of the United States National Museum for the | year ending	June 30, 1914 | (Seal) | Washington | Government Printing Office | 1915
	8vo., pp. 1-252.

PROCEEDINGS.

Smithsonian Institution | United States National Museum | — | Proceedings | of the | United States National Museum | — | Volume 47	| — | (Seal) | Washington | Government Printing Office | 1915
	8vo., pp. i-xii, 1-755, pls. 1-56.

BULLETINS.

Smithsonian Institution | United States National Museum | Bulletin 71 | — | A monograph of the Foraminifera | of the North Pacific Ocean | — | Part V. Rotallidæ | — | By | Joseph Augustine Cushman | Of the Boston Society of Natural History | (Seal) | Washington | Government Printing Office | 1915	Smithsonian Institution | United States National Museum | Bulletin 88 | — | Revision of Paleozoic Stelleroidæ | with special reference to North | American Asteroidea | By | Charles Schuchert | Professor of Paleontology, Yale University | New Haven | (Seal) | Washington | Government Printing Office | 1915
8vo., pp. 1-vii, 1-87, pls. 1-31, figs. 1-62.	8vo., pp. 1-311, pls. 1-38, figs. 1-41.
Smithsonian Institution | United States National Museum | Bulletin 82 | — | A monograph of the existing crinoids | By | Austin Hobart Clark | Assistant Curator, Division of Marine Invertebrates | United States National Museum | — | Volume 1 | The Comatulids | — | Part 1 | (Seal) | Washington | Government Printing Office | 1915	Smithsonian Institution | United States National Museum | Bulletin 89 | — | Osteology of the armored dinosaurs in the | United States National Museum, with | special reference to the genus | Stegosaurus | By | Charles Whitney Gilmore | Assistant Curator of Fossil Reptiles, United States National Museum | (Seal) | Washington | Government Printing Office | 1914
4to., pp. 1-vi, 1-406, pls. 1-17, figs. 1-513.	4to., pp. 1-xi, 1-143, pls. 1-37, figs. 1-73.

Smithsonian Institution | United States
National Museum | Bulletin 90 |
— | A monograph of the molluscan
fauna of | the *Orthaulax Pugnax*
Zone of the | Oligocene of Tampa,
Florida | By | William Healey
Dall | Curator, Division of Mollusks,
United States National Museum |
(Seal) | Washington | Government
Printing Office | 1915

8vo., pp. 1-xv, 1-173, pls.
1-26.

Smithsonian Institution. | United States
National Museum. | — | Special Bul-
letin. | — | American hydroids. |
— | Part III. | The *Campanularidæ*
and the | *Bonneviellidæ*, | with

twenty-seven plates. | By | Charles
Cleveland Nutting, | Professor of
Zoology, State University of Iowa. |
— | Washington: | Government
Printing Office. | 1915

4to., pp. 1-iii, 1-126, pls.
1-27, figs. 1-70.

Smithsonian Institution | United States
National Museum | — | Contribu-
tions | from the | United States
National Herbarium | Volume 19 |
— | Flora of New Mexico | — | By
E. O. Wootton and Paul C. Stand-
ley | (Seal) | Washington | Gov-
ernment Printing Office | 1915

8vo., pp. 1-794.

PAPERS PUBLISHED IN SEPARATE FORM.

FROM VOLUME 47 OF THE PROCEEDINGS.

No. 2052. Results of the Yale-Peruvian
Expedition of 1911. Ad-
dendum to the Hymenop-
tera Ichneumonidae. By
P. R. Myers. pp. 361, 362.

No. 2053. A new pearly freshwater
mussel of the genus *Hyria*
from Brazil. By L. S.
Frierson. p. 363, pl. 12.

No. 2054. Descriptions of new species
and genera of Lepidop-
tera from Mexico. By
Harrison G. Dyar. pp.
385-409.

No. 2055. Littoral marine mollusks of
Chincoteague Island, Vir-
ginia. By John B. Hen-
derson and Paul Bartsch.
pp. 411-421, pls. 13, 14.

No. 2056. Lepidoptera of the Yale-
Dominican Expedition of
1913. By Harrison G.
Dyar. pp. 423-426.

No. 2057. A systematic account of the
grasshopper mice. By N.
Hollister. pp. 427-489,
pl. 15, figs. 1-3.

No. 2058. Orthoptera of the Yale-Dom-
inican Expedition of
1913. By A. N. Caudell.
pp. 491-495.

No. 2059. A peculiarity in the growth
of the tail feathers of the
giant hornbill (*Rhinoplax*
Vigil). By Alex Wet-
more. pp. 497-500.

No. 2060. Notes on wolframite, be-
raunite, and axinite. By
Edgar T. Wherry. pp.
501-511.

No. 2061. Vespid and sphecoid Hy-
menoptera collected in
Guatemala by W. P. Cock-
erell. By S. A. Rohwer.
pp. 513-523.

No. 2062. Report on Rotatoria from
Panama with descriptions
of new species. By Harry
K. Haring. pp. 525-564,
pls. 16-24.

No. 2063. North American parasitic co-
pepods belonging to the
Lernæopodidæ, with a re-
vision of the entire fam-
ily. By Charles Branch
Wilson. pp. 565-729, pls.
25-56, figs. 1-15.

FROM VOLUME 48 OF THE PROCEEDINGS.

- No. 2064. New North American bees of the genus *Andrena*. By Henry L. Viereck and T. D. A. Cockerell. pp. 1-58.
- No. 2065. The Crustacea Euphausiacea of the United States National Museum. By H. J. Hansen. pp. 59-114, pls. 1-4.
- No. 2066. List of generic names and their type-species in the Coleopterous super family Scolytoidea. By A. D. Hopkins. pp. 115-136.
- No. 2067. A new genus and some new species of crabs of the family Goneplacidae. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910. — No. 32.] By Mary J. Rathbun. pp. 137-154.
- No. 2068. Descriptions of new genera and species, with notes on parasitic Hymenoptera. By A. B. Gahan. pp. 155-168.
- No. 2069. Two new South American jaguars. By N. Hollister. pp. 169, 170, pl. 5.
- No. 2070. Report on some parasitic and predaceous Diptera from northeastern New Mexico. By W. R. Walton. pp. 171-186, pls. 6, 7.
- No. 2071. Descriptions of a new genus and species of the discodrilid worms. By Maurice C. Hall. pp. 187-193, figs. 1-3.
- No. 2072. New genera and species of gall midges. By E. Porter Felt. pp. 195-211, figs. 1-15.
- No. 2073. Report on the holothurians collected by the United States Fisheries steamer "Albatross" in the north-western Pacific during the summer of 1906. By Hiroshi Ohshima. pp. 213-291, pls. 8-11, fig. 1.
- No. 2074. The Mississippi River bluffs at Columbus and Hickman, Kentucky, and their fossil flora. By Edward W. Berry. pp. 293-303, pls. 12, 13.
- No. 2075. Fishes collected by the United States Fisheries steamer "Albatross" in southern California in 1904. By Charles Henry Gilbert. pp. 305-380, pls. 14-22.
- No. 2076. Descriptions of new African birds of the genera *Francolinus*, *Chalcopelia*, *Cinnyris*, *Chalcomitra*, *Antheptes*, *Estrilda*, *Halcyon*, *Melittophagus*, and *Colius*. By Edgar A. Mearns. pp. 381-394.
- No. 2077. An extinct marsupial from the Fort Union with notes on the Myrmecobidae and other families of this group. By James Williams Gidley. pp. 395-402, pl. 23.
- No. 2078. Reptiles of northwestern Nevada and adjacent territory. By C. H. Richardson. pp. 403-435.
- No. 2079. On some generic names first mentioned in the "Conchological Illustrations." By William Healey Dall. pp. 437-440.

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| <p>No. 2080. Description of new species of crane-flies from Central America. By Charles P. Alexander. pp. 441-444, pl. 24.</p> <p>No. 2081. Synopsis of the species of sawflies belonging to the genus <i>Dimorphopteryx</i>. By S. A. Rohwer. pp. 445-448.</p> <p>No. 2082. Flounders and soles from Japan collected by the United States Bureau of Fisheries steamer "Albatross" in 1906. By Carl L. Hubbs. pp. 449-496, pls. 25-27.</p> <p>No. 2083. Notes on some sawfly larvae belonging to the genus <i>Dimorphopteryx</i>. By William Middleton. pp. 497-501, pl. 28, figs. 1-4.</p> <p>No. 2084. The Fisher, Polk County, Minnesota, meteorite. By George P. Merrill. pp. 503-506, pl. 29.</p> <p>No. 2085. Descriptions of six new species of Ichneumon-flies. By R. A. Cushman. pp. 507-513.</p> | <p>No. 2086. Contributions to the knowledge of the mammals of the Pleistocene of North America. By Oliver P. Hay. pp. 515-575, pls. 30-37, figs. 1-5.</p> <p>No. 2087. Descriptions of new Hymenoptera, No. 9. By J. C. Crawford. pp. 577-586, figs. 1-11.</p> <p>No. 2088. A synopsis of the races of the long-tailed goatsucker, <i>Caprimulgus macrurus</i> Horsfield. By Harry C. Oberholser. pp. 587-599.</p> <p>No. 2089. Notes on neotropical dragonflies, or Odonata. By Edward Bruce Williamson. pp. 601-638, pls. 38-44, figs. a-c.</p> <p>No. 2090. A review of the subspecies of the ruddy kingfisher, <i>Entomothera coromanda</i> (Linnaeus). By Harry C. Oberholser. pp. 639-657.</p> <p>No. 2091. Rediscovery of <i>Pourtales</i>' <i>Haliotis</i>. By John B. Henderson. pp. 659-661, pls. 45, 46.</p> |
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FROM VOLUME 49 OF THE PROCEEDINGS.

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| <p>No. 2093. Notes on some United States grasshoppers of the fam-</p> | <p>No. 2093—Continued.
ily Acrididæ. By A. N. Caudell. pp. 25-31.</p> |
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CLASSIFIED LIST OF PAPERS BASED WHOLLY OR IN PART ON THE NATIONAL COLLECTIONS.¹

MUSEUM ADMINISTRATION.

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| <p>RATHBUN, RICHARD. Report on the progress and condition of the United States National Museum for the year ending June 30, 1914.</p> | <p>RATHBUN, RICHARD—Continued.
8vo., pp. 1-252, Jan. 19, 1915.</p> |
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ANTHROPOLOGY.

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| <p>FEWKES, J. WALTER. Prehistoric objects from a shell-heap at Erin Bay, Trinidad.</p> <p style="text-align: center;"><i>Amer. Anthropologist</i>
(n. s.), 16, No. 2,
Apr.-June, 1914, pp.
200-220, pls. 14-19,
figs. 64-73.</p> <p style="text-align: center;">The author describes a number of prehistoric objects exca-</p> | <p>FEWKES, J. WALTER—Continued.
vated by him from a shell-heap at Erin Bay, Island of Trinidad. The kitchen midden in which they were obtained is historically interesting from the fact that it is situated not far from the spring where the sailors of Columbus filled their casks with water on his third voyage.</p> |
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¹A few papers published prior to this fiscal year are included, having been inadvertently omitted from previous reports.

FEWKES, J. WALTER. A prehistoric stone collar from Porto Rico.

Amer. Anthropologist (n. s.), 16, No. 2, Apr.-June, 1914, pp. 319-330, figs. 97-109.

Description of a prehistoric Porto Rican stone collar the knob of which is modified into the head of a reptile.

— Archeology of the Lower Mimbres Valley, New Mexico.

Smithsonian Misc. Colls., 63, No. 10, 1914, pp. 1-53, pls. 1-8, figs. 1-32.

Preliminary report on the antiquities of the Mimbres Valley, New Mexico. The evidence thus far gathered indicates that the culture of the prehistoric inhabitants of the Mimbres Valley was a connecting link between that of the pueblos in the north and of the people who built the Casa Grandes in Chihuahua in the south. It is closely allied, however, to a form of culture known as the "pre-puebloan," which preceded the true pueblo culture characteristic of New Mexico.

— Archaeology of Barbados.

Proc. Nat. Acad. Sci., 1, No. 1, Jan., 1915, pp. 47-51.

A brief preliminary account of the various mounds, caves, shell-heaps and other aboriginal sites found in the island of Barbados.

— Engraved celts from the Antilles.

Contr. Heye Museum, 2, No. 3, May, 1915, pp. 1-12, figs. 1-4.

Discusses certain Antillean celts with engraved figures on one surface from the Heye Museum, the Museum für Völkerkunde in Berlin, Germany, and the Royal Museum in Copenhagen, Denmark.

— Prehistoric cultural centers in the West Indies.

Journ. Washington Acad. Sci., 5, No. 12, June 19, 1915, pp. 436-443.

FEWKES, J. WALTER—Continued.

This article divides the prehistoric culture of the West Indies into a certain number of centers, distinguished from each other by the character of such artifacts as stone implements and pottery, and is preliminary to a more extensive discussion of the subject which will later be published by the Bureau of American Ethnology, the work having been done under a plan of cooperation between the Museum and the Bureau.

HOLMES, W. H. Areas of American culture characterization tentatively outlined as an aid in the study of the antiquities.

Amer. Anthropologist (n. s.), 16, No. 3, July-Sept., 1914, pp. 413-446, pl. 32.

Outlines the areas of the numerous distinctive culture groups of aboriginal America, for convenience in conducting comparative studies of prehistoric remains.

— Masterpieces of aboriginal American art: I. Stucco-work.

Art and Arch., 1, No. 1, July, 1914, pp. 1-12, pl. 1, figs. 1-10.

The first of a series of brief papers intended to convey an impression of the achievements of the American aborigines in the several arts in which the esthetic sense is especially involved, and at the same time to add to the sum of knowledge of the evolution of the esthetic side of human culture in general. The intelligent use of stucco in architectural embellishment may well be regarded as representing the highest art plane reached on the American continent, and the best examples existing today, some of which have withstood the destructive agencies of a tropical climate for 400 years or more, are described and illustrated.

— Masterpieces of aboriginal American art: II. Mosaic work, minor, examples.

Art and Arch., 1, No. 3, Nov., 1914, pp. 91-102, 1 pl., figs. 1-9.

HOLMES, W. H.—Continued.

The art of inlay practiced with marvelous perfection by the early Mediterranean nations had reached a high place in the favor of the leading American peoples, and the Aztecs especially had produced works, mostly of minor subjects, in which are displayed a skill and taste truly surprising. The examples illustrated, and more especially the human skull incrustated with brilliant stones, and reproduced in color in the frontispiece, are distinctly impressive.

— Masterpieces of a b o r i g i n a l American art: III. Mosaic work, major examples.

Art and Arch., 1, No. 6, May, 1915, pp. 243-255, pls. 1-5, figs. 1-8.

The native Americans were not only competent workers in stucco and the minor forms of mosaic, but applied the latter art with striking effect to the embellishment of their great buildings. The awakening of esthetic appreciation is manifest everywhere among the more advanced tribes, and excellent examples are available in Mexico and Central and South America, those of the ancient cities of Mitla and Uxmal being especially noteworthy.

HRDLIČKA, ALEŠ. A study of old Americans.

Journ. Heredity, 5, No. 11, Nov., 1914, p. 509.

A brief explanation of investigations carried on by the author for a period of more than two years on representatives of the oldest American families.

— Physical anthropology in America.

Amer. Anthropologist (n. s.), 16, No. 4, Oct.-Dec., 1914, pp. 508-554.

Gives a succinct, but, as far as possible, a complete history of researches in physical anthropology in America, more particularly in the United States, with bibliography. It includes the work of living as

HRDLIČKA, ALEŠ—Continued.

well as deceased authors. Discussion of the more recent phases of the subject is reserved for a future communication.

— The most ancient skeletal remains of man.

Rep. Smithsonian Inst., 1913 (1914), pp. 491-552, pls. 1-41, figs. 1-12.

Report on the precious skeletal material relating to early man in the Old World. Under a grant of the Smithsonian Institution, the author, in 1912, visited the various European institutions in which well authenticated ancient skeletal remains of man are preserved, as well as a number of the more important localities from which these specimens came, and this report embodies the main literature of the subject and abstracts of published data as well as his personal observations. The specimens reported on in particular are those of the Pithecanthropus, Eoanthropus, the Mauer jaw, the Gibraltar skull, the Neanderthal skull and other bones, the Spy skeleton, the Krapina remains, the Jersey (England) teeth, the La Quina skeleton, and the Moustier skeleton.

— The peopling of America.

Journ. Heredity, 6, No. 2, Feb., 1915, pp. 79-91, figs. 14-21.

A reprint, in the main, of the author's article on the same subject published in the Proceedings of the 18th International Congress of Americanists (1913-1914), with several new illustrations. It was prepared for publication by the editor of the Journal.

— Some recent anthropological explorations.

Proc. Nat. Acad. Sci., 1, No. 4, Apr., 1915, pp. 235-238.

A brief report of the various anthropological expeditions sent out between 1912 and 1915, under the auspices of the Smithsonian Institution and under the author's direction, in connection with the prepara-

HRDLÍČKA, ALEŠ—Continued.

tion of the exhibits of physical anthropology for the Panama-California Exposition, San Diego, California.

JUDD, NEIL M. The use of glue molds in reproducing aboriginal monuments at Quirigua, Guatemala.

Amer. Anthropologist (n. s.), 17, No. 1, Jan.-Mar., 1915, pp. 128-138, pls. 12, 13, figs. 29-34.

Brief account of the successful use of a new medium in reproducing the huge stone stelae and the lesser monuments at the ancient Mayan city of Quirigua. The chief difficulties met with and the manner in which they were finally overcome is also considered.

——— Making glue molds in the Tropics.

The Concrete Age, 21, No. 4, Jan., 1915, pp. 9-11 and 24, 5 illustrations.

The Cement Era, 13, No. 1, Jan., 1915, pp. 54, 55, 3 illustrations.

The employment of glue as a medium in the reproduction of large carvings had not previously been attempted in the Torrid Zone. This article summarizes, for the benefit of those

JUDD, NEIL M.—Continued.

who make frequent use of glue molds, the chief difficulties encountered in the Tropics and the manner in which the expedition's results were finally obtained.

——— Interesting experiments with glue molds in reproducing prehistoric monuments.

The Architect and Engineer of California, 40, No. 2, Feb., 1915, pp. 92-96.

Same as the above, with modifications.

——— The use of glue molds under serious difficulties.

Concrete-Cement Age, 6, No. 3, Mar., 1915, pp. 151-154, figs. 1-6.

Same as the above, with modifications.

SHUFELDT, R. W. Comparative studies of certain cranial sutures in the primates.

Anat. Rec., 9, No. 1, Jan. 20, 1915, pp. 121-124.

Relates to certain characters of human crania in the Division of Physical Anthropology, U. S. National Museum, and their analogues in mammalian crania.

PHILATELY.**LEAVY, JOSEPH B.** The United States Government collection of postage stamps.

The Philat. Gas., 4, No. 12, Dec., 1914, pp. 217-222, 2 pls.; 5, No. 1, Jan., 1915, pp. 1-4; 5, No. 2, Feb., 1915, pp. 21-24; 5, No. 3, Mar., 1915, pp. 41-45; 5, No. 4, Apr., 1915, pp. 69-71; 5, No. 5, May, 1915, pp. 93, 94.

A complete and detailed list of the stamps of the United States and possessions on exhibition in the U. S. National Museum collection, which is to be continued throughout the com-

LEAVY, JOSEPH B.—Continued.

ing year, taking up the stamps of the various foreign countries in the order of installation.

——— Another interesting discovery.

The Philat. Gas., 5, No. 3, Mar., 1915, pp. 46, 47, 3 figs.

Describes the discovery by Mr. Leavy of two varieties of the United States one dollar stamp of 1894 and 1895, and indicates in detail the differences between the varieties in question. These two varieties are to be made standard by being listed in the forthcoming catalogue of the Scott Stamp & Coin Co.

LEAVY, JOSEPH B. Special printing of die proofs for the San Francisco exposition.

The Philat. Gaz., 5, No. 6, June, 1915, pp. 117-125.

This article, while really a continuation of the paper on "The United States Government collection of postage stamps," was given a special heading as it contains very interesting historical data concerning the character of the dies from which the proofs were made, the information being secured from the Bureau of Engraving and Printing and here made public for the first time.

LEAVY, JOSEPH B. New issue notes.

The Philat. Gaz., 5, No. 2, Feb., 1915, p. 31; 5, No. 3, Mar., 1915, pp. 47, 48; 5, No. 4, Apr., 1915, pp. 79, 80; 5, No. 6, June, 1915, pp. 128-130.

A series of notes on new issues of foreign stamps received from the Universal Postal Union at Berne, Switzerland, through the Post Office Department. They are based entirely on material in the U. S. National Museum.

MAMMALS.

ALLEN, J. A. New South American bats and a new octodont.

Bull. Amer. Mus. Nat. Hist., 33, Art. 29, July 9, 1914, pp. 381-389, pl. 28.

The U. S. National Museum collections were consulted by the author during the preparation of this paper.

——— Review of the South American Sciuridae.

Bull. Amer. Mus. Nat. Hist., 34, Art. 8, May 17, 1915, pp. 147-309, pls. 1-14, figs. 1-25.

The entire collection of South American squirrels belonging to the U. S. National Museum was lent the author during his work on this paper.

BAILEY, VERNON. Eleven new species and subspecies of pocket gophers of the genus *Thomomys*.

Proc. Biol. Soc. Washington, 27, July 10, 1914, pp. 115-118.

Describes as new: *Thomomys talpoides bullatus*, *T. t. caryi*, *T. t. nebulosus*, *T. pryor*, *T. bottae minor*, *T. neglectus*, *T. mcarni*, *T. fuscus columbianus*, *T. f. saturatus*, *T. f. loringi*, *T. nevadensis atrogriacus*. The type specimens are in the Biological Survey collection.

COCKERELL, T. D. A., LEWIS I. MILLER and MORRIS PRINTZ. The auditory ossicles of American rodents.

Bull. Amer. Mus. Nat. Hist., 33, Art. 28, July 14, 1914, pp. 347-380, figs. 1-55; 61-124.

Skulls of rodents from the U. S. National Museum collection were lent to the authors for study in connection with the preparation of this paper.

GOLDMAN, E. A. A new spider monkey from Panama.

Proc. Biol. Soc. Washington, 28, Apr. 13, 1915, pp. 101, 102.

Ateles dariensis is described as new. The type is in the Biological Survey collection.

——— Five new rice rats of the genus *Oryzomys* from Middle America.

Proc. Biol. Soc. Washington, 28, June 29, 1915, pp. 127-130.

Describes as new: *Oryzomys guerrerensis*, *O. nitidus allen*, *O. alfaroi dariensis*, *O. couesi regillus*, *O. fulvescens lenis*. Most of the types are in the Biological Survey collection.

——— Five new mammals from Mexico and Arizona.

Proc. Biol. Soc. Washington, 28, June 29, 1915, pp. 133-138.

Describes as new: *Potos flavus guerrerensis*, *Geomys*

GOLDMAN, E. A.—Continued.

personatus tropicalis, *Neotoma albigula mearnsi*, *N. a. sheldoni*, *Noctilio leporinus mexicanus*. The types are in the Biological Survey collection.

GRINNELL, HILDA WOOD. Three new races of vespertilionid bats from California.

Univ. Calif. Pub. Zool.,
12, No. 10, Dec. 4,
1914, pp. 317–320.

Describes as new: *Myotis californicus quercinus*, *M. yumenensis sociabilis*, *Corynorhinus macrotis intermedius*. Material for comparison was lent to the author by the U. S. National Museum.

GRINNELL, JOSEPH. *Eutamias sonomae*, a new chipmunk from the inner northern coast belt of California.

Univ. Calif. Pub. Zool.,
12, No. 11, Jan. 20,
1915, pp. 321–325,
1 fig.

U. S. National Museum material was lent to the author for study in connection with the preparation of this paper.

HOLLISTER, N. Descriptions of four new mammals from tropical America.

Proc. Biol. Soc. Wash-
ington, 27, July 10,
1914, pp. 141–144.

Describes *Atelca tricolor*, *Procyon lotor crassidens*, *Mustela meridana*, and *Loncheres flavidus*.

— [Review of Theodore Roosevelt and Edmund Heller's "Life-Histories of African Game Animals."]

Die Naturwissenschaften,
Berlin, Heft 29,
July 17, 1914, pp.
719, 720.

— [Review of Roy C. Andrews' "Monographs of the Pacific Cetacea, I, The California Gray Whale."]

Die Naturwissenschaften,
Berlin, Heft 29,
July 17, 1914, p. 720.

— [Review of Joseph Grinnell's "An account of the mammals and birds of the lower Colorado Valley, etc."]

Die Naturwissenschaften,
Berlin, Heft 29,
July 17, 1914, p. 721.

HOLLISTER, N. A systematic account of the grasshopper mice.

Proc. U. S. Nat. Mus.,
47, No. 2057, Oct.
29, 1914, pp. 427–
489, pl. 15.

A monographic revision of the forms of the genus *Onychomys*. One subspecies, *Onychomys torridus surrufus*, is described as new.

— New mammals from Costa Rica and Mexico.

Proc. Biol. Soc. Wash-
ington, 27, Oct. 31,
1914, pp. 209, 210.

New forms are *Mazama temacerasina* and *Cyclopes meacanus*.

— The systematic name of the Brazilian crab-eating raccoon.

Proc. Biol. Soc. Wash-
ington, 27, Oct. 31,
1914, p. 215.

Procyon nigripes Mivart antedates *Procyon cancrivorus brasiliensis* Von Ihering.

— The technical names of the common skunk and mink of the Eastern States.

Proc. Biol. Soc. Wash-
ington, 27, Oct. 31,
1914, p. 215.

Mephitis nigra and *Mustela vison mink*, dating from Peale and Beauvois, 1796, antedate *Mephitis putida* and *Mustela vison lutrecephala* as names for the common eastern skunk and mink.

— On the systematic names of the cheetahs.

Proc. Biol. Soc. Wash-
ington, 27, Oct. 31,
1914, p. 216.

— The spotted tiger-cat in Texas.

Proc. Biol. Soc. Wash-
ington, 27, Oct. 31,
1914, p. 219.

A record for *Felis glauca* north of the Rio Grande.

— Two new South American jaguars.

Proc. U. S. Nat. Mus.,
48, No. 2069, Dec.
16, 1914, pp. 169,
170, pl. 5.

Describes *Felis paraguayensis* and *Felis notialis* from Paraguay and Argentina.

HOLLISTER, N. The type locality of *Pecari tajacu*.

Proc. Biol. Soc. Washington, 28, Mar. 12, 1915, p. 70.

— A new name for the white-tailed jack rabbit.

Proc. Biol. Soc. Washington, 28, Mar. 12, 1915, p. 70.

Lepus campantus proposed for *Lepus campestris* Bachman, pre-occupied.

— The systematic name of the Mexican spider monkey.

Proc. Biol. Soc. Washington, 28, June 29, 1915, p. 142.

The name *Ateles neglectus* Reinhardt, 1872, is revived.

HOWELL, ARTHUR H. Revision of the American marmots.

North Amer. Fauna, No. 87, Apr. 7, 1915, pp. 1-80, pls. 1-15, figs. 1-3.

Based chiefly on the collections in the U. S. National Museum. Two new forms are described as follows: *Marmota monax petrensis*, *Marmota flaviventris sierræ*.

— Descriptions of a new genus and seven new races of flying squirrels.

Proc. Biol. Soc. Washington, 28, May 27, 1915, pp. 109-114.

New: *Eoglaucomys*, *Glaucmys volans saturatus*, *G. r. texensis*, *G. sabrinus canescens*, *G. s. columbiensis*, *G. s. latipes*, *G. s. flaviventris*, *G. bullatus*. Most of the types are in the U. S. National Museum collection.

MERRIAM, C. HART. Descriptions of thirty apparently new grizzly and brown bears from North America.

Proc. Biol. Soc. Washington, 27, Aug. 13, 1914, pp. 173-196.

New Species: *Ursus alexandrae*, *U. eltonclarki*, *U. orgilos*, *U. innuitus*, *U. internationalis*, *U. russelli*, *U. stikeenensis*, *U. nortoni*, *U. imperator*, *U. ab-sarokus*, *U. tahltanicus*, *U. toklat*, *U. phazonys latifrons*, *U. shoshone*, *U. s. canadensis*,

MERRIAM, C. HART—Continued.

U. klamathensis, *U. pervagor*, *U. caurinus*, *U. colusus*, *U. californicus tularensis*, *U. magister*, *U. henshawii*, *U. nelsoni*, *U. horrius texensis*, *U. navaho*, *U. bairdi*, *U. utahensis*, *U. kernerleyi*, *U. shirasi*, *U. kidderi tundrensis*. Most of the types are in the collections of the Biological Survey and U. S. National Museum.

MILLER, GERRIT S., jr. Directions for preparing specimens of mammals.

Bull. U. S. Nat. Mus., No. 89, Pt. N, 4th ed., rev., Aug. 18, 1914, pp. 1-24, figs. 1-7.

— Two new North American bats.

Proc. Biol. Soc. Washington, 27, Oct. 31, 1914, pp. 211, 212.

Describes as new: *Myotis longicrus interior*, *M. l. amotus*. The types are in the Biological Survey collection.

— The generic name of the collared peccaries.

Proc. Biol. Soc. Washington, 27, Oct. 31, 1914, p. 215.

— The generic name of the common flying-squirrels.

Proc. Biol. Soc. Washington, 27, Oct. 31, 1914, p. 216.

— A new bat from Cuba.

Proc. Biol. Soc. Washington, 27, Dec. 29, 1914, pp. 225, 226.

Describes as new: *Chilonatalus macer*. The type is in the U. S. National Museum collection.

— Further note on the generic name of the collared peccaries.

Proc. Biol. Soc. Washington, 27, Dec. 29, 1914, p. 229.

— A new squirrel from northeastern China.

Proc. Biol. Soc. Washington, 28, May 27, 1915, pp. 115, 116.

Describes as new: *Tamias vestitus*. The type is in the U. S. National Museum collection.

MILLER, LEWIS I. (See under T. D. A. Cockerell.)

OSGOOD, WILFRED H., EDWARD A. PREBLE and GEORGE H. PARKER. The fur seals and other life of the Pribilof Islands, Alaska, in 1914.

Bull. Bur. Fisheries,
34, No. 820, June
19, 1915, pp. 1-172,
pls. 1-18, maps
1-24.

The fur seal skulls in the U. S. National Museum collection were used in the preparation of this paper.

PARKER, GEORGE H. (See under Wilfred H. Osgood.)

PREBLE, EDWARD A. (See under Wilfred H. Osgood.)

PRINTZ, MORRIS. (See under T. D. A. Cockerell.)

SHUFELDT, R. W. On the osteology of the genera *Lasionyga* and *Callithrix* with notes upon the osteology of the genera *Seniocebus* and *Aotus*.

Annals Carnegie Mus.,
9, Aug. 17, 1914,
pp. 58-85, pls. 12-
21.

Skeletons in the U. S. National Museum were studied and figured by the author.

— On the taxonomy of the Procyonidae.

Science (n. s.), 41,
No. 1062, May 7,
1915, pp. 691, 692.

Skeletons in the U. S. National Museum were studied by the author.

STEJNEGER, LEONHARD. The systematic name of the Pacific walrus.

Proc. Biol. Soc. Washington, 27, July 10,
1914, p. 145.

Odobenus divergens (Illiger) shown to be the proper name for the Pacific walrus.

BIRDS.

BARTSCH, PAUL. Birds observed on the Florida Keys from April 20 to April 30, 1914.

Carnegie Inst. of Washington, Year Book No. 13, 1915,
pp. 192-196.

Extracts from journal, recording birds seen, with annotations.

CHAPMAN, FRANK M. Diagnoses of apparently new Colombian birds. III.

Bull. Amer. Mus. Nat. Hist., 33, Art. 40,
Nov. 21, 1914, pp.
603-637, pl. 13
(map of s. w. Colombia).

The following forms are described as new: *Streptoprocne sonaria altilima*, *Trogonurus curucui cupreicauda*, *Chrysotrogon caligatus columbianus*, *Eubucco bourcierii occidentalis*, *E. b. orientalis*, *Chrysomitris punctigula striatigularis*, *Venillornis oleaginus aureus*, *Thamnistes anabatius intermedius*, *Myrmopagis schisticolor interior*, *Microhoptias grisea hondæ*, *Hylaptes dives barbacoæ*, *Synallaxis azara media*, *S. mæsta*

CHAPMAN, FRANK M.—Continued.

obscura, *S. gujanensis columbianus*, *S. rutilans caquetensis*, *S. pudica caucæ*, *Sclerurus meacanus andinus*, *Pipra leucocilla minor*, *Manacus manacus interior*, *M. m. bangsi*, *M. m. leucocochlamys*, *Pachyrhamphus castaneus saturatus*, *P. magdalenæ*, *Euchloris riefferi occidentalis*, *Pyroderus scutatus occidentalis*, and *Cistothorus apollinari*.

— Descriptions of proposed new birds from Central and South America.

Bull. Amer. Mus. Nat. Hist., 34, Art. 11,
May 27, 1915, pp.
363-388.

Describes *Odontophorus gujanensis panamensis*, *Rhynchortyx cinctus australis*, *Columba subvinacea peninsularis*, *Chamepelea rustipennis caucæ*, *Leptotila rufaxilla hellmayri*, *L. r. pallidipectus*, *Asio flammeus bogotensis*, *Certhia sparverius caucæ*, *C. s. fernandensis*, *Pyrrhura melanura pacifica*, *Psittacula conspicillata caucæ*, *Curucujus massena australis*, *Andigena nigrirostris occiden-*

CHAPMAN, FRANK M.—Continued.

talis, *Chloronerpes rubiginosus bucanista*, and *Atlapetes gutturalis brunnescens*. The several forms of *Odontophorus gutanensis*, *Leptotilla rufazilla* and *Cerchneis sparverius* are discussed at length.

COALE, HENRY K. The present status of the trumpeter swan (*Olor buccinator*).

Auk, 32, No. 1, Jan., 1915, pp. 82-90, pls. 7-10.

Notes on the former and present distribution of this species, with records of specimens in American museums.

COOKE, WELLS W. Distribution and migration of North American rails and their allies.

Bull. U. S. Dept. Agric., No. 128, Sept. 25, 1914, pp. 1-50, figs. 1-19.

An account of the distribution and migration of the North American cranes, rails, and allied forms, illustrated by maps.

CORY, CHARLES B. Descriptions of new birds from South America and adjacent islands.

Field Mus. Nat. Hist., Pub. 182, *Ornith. Ser.*, 1, No. 8, Feb. 23, 1915, pp. 293-302.

The following are described as new: *Crypturus tataupa peruviana*, *Nothoprocta ambigua*, *Odontophorus plumbicollis*, *Columba rufina andersoni*, *C. r. tobagensis*, *C. plumbea propinqua*, *C. subvinacca zuliae*, *Aramides cajanea venezuelensis*, *A. c. peruviana*, *Cerchneis sparverius peruviana*, *C. s. distincta*, *C. s. margaritensis*, *C. s. ochracea*, *Otus choliba margaritae*, *Speotyto cunicularia arabensis*, *S. c. beckeri*, *S. c. intermedia*, *Podiceps nacunda minor*, *Nyctidromus albigollis obscurus*, *Caprimulgus hirundinaceus crissalis* and *Threnetes longicauda*.

DWIGHT, JONATHAN, Jr. The moults and plumages of the scoters—genus *Oidemia*.

Auk, 31, No. 3, July, 1914, pp. 293-308, pls. 24-30.

DWIGHT, JONATHAN, Jr.—Continued.

The sequence of moults in the several species of this genus is described, and distinguishing characters in the shape of the outer primaries are given.

FLEMING, J. H. A new turnagra from Stephens' Island, New Zealand.

Proc. Biol. Soc. Washington, 28, May 27, 1915, pp. 121-123.

Turnagra capensis minor is described, and notes are added on the plumages of *T. c. capensis*.

HEILMANN, GEBHARD. Vor nuværende Viden om Fuglenes Afstamning. Fjerde Afsnit: Anatomisk-biologisk Sammenligning.

Dansk Ornith. Forenings Tidsskrift, 9, Hæfte 2-3, Mar. 1915, pp. 97-160, figs. 160-186.

Continuation of a paper on the reptilian origin of birds.

LAW, J. E. Franklin gull: A new record for California.

Condor, 17, No. 2, Mar. 15, 1915, p. 96.

Records the occurrence of three individuals in California.

MEARNS, EDGAR A. Diagnosis of a new subspecies of Gambel's quail from Colorado.

Proc. Biol. Soc. Washington, 27, July 10, 1914, p. 113.

Lophortyx gambelii sanus is diagnosed as new.

— Descriptions of new African birds of the genera *Francolinus*, *Chalcopella*, *Cinnyris*, *Chalcomitra*, *Anthreptes*, *Estrilda*, *Halcyon*, *Melittophagus*, and *Colius*.

Proc. U. S. Nat. Mus., 48, No. 2076, Jan. 19, 1915, pp. 381-394.

Francolinus hildebrandti helperi, *Chalcopella afra killimensis*, *C. chalcospila intensa*, *C. c. media*, *Cinnyris venusta blicki*, *C. mediocris garguensis*, *C. reichenowi kikuyensis*, *Chalcomitra senegalensis atra*, *Anthreptes collaris garguensis*, *Estrilda atricapilla kentensis*, *Halcyon senegalensis cinerei*.

MEARNS, EDGAR A.—Continued.

capillus, *H. malimbicus prenticei*, *Melittophagus variegatus loringi* and *Coltus striatus jebelensis* are described as new.

MURPHY, ROBERT CUSHMAN. (See under John Treadwell Nichols.)

NICHOLS, JOHN TREADWELL, and ROBERT CUSHMAN MURPHY. A review of the genus *Phæbetria*.

Auk, 31, No. 4, Oct., 1914, pp. 526-534, pl. 41.

Six species and subspecies are recognized, of which *Phæbetria palpebrata auduboni* is described as new.

OBERHOLSER, HARRY C. A synopsis of the races of the long-tailed goat-sucker, *Caprimulgus macrurus* Horsfield.

Proc. U. S. Nat. Mus., 48, No. 2088, May 3, 1915, pp. 587-599.

Nine subspecies are recognized, of which the following are described as new: *Caprimulgus macrurus mesophantis*, *C. m. anamesus*.

A review of the subspecies of the ruddy kingfisher, *Entomothera coromanda* (Linnaeus).

Proc. U. S. Nat. Mus., 48, No. 2090, May 18, 1915, pp. 639-657.

A review of the species *Entomothera coromanda*, of which 9 forms are noticed. *Entomothera coromanda mizorhina*, *E. c. neophora*, *E. c. pagana*, *E. c. ochrothorectis* and *E. c. bangsi* are new.

RIDGWAY, ROBERT. Descriptions of some new forms of American cuckoos, parrots, and pigeons.

Proc. Biol. Soc. Washington, 28, May 27, 1915, pp. 105-107.

Brief diagnoses are given of the following: *Coccyzus minor palloris*, *C. m. rileyi*, *Morococcyo erythropygus mexicanus*, *Ara militaris mexicana*, *Conurus holochlorus strenuus*, *Grammopsittaca lineola maculata*, *Amazona vittata gracilipes*, *Notiornis* (new genus), *Chloronotus inornata casui*, *Zenaidura macroura tremaria*, *Zenaidura ruficauda robinsoni*, *Melopelia asiatica mearnsi*, and *Leptotilla verreauxi nuttingi*.

RIDGWAY, ROBERT. A new pigeon from Chiriqui, Panama.

Proc. Biol. Soc. Washington, 28, June 29, 1915, p. 139.

Enanas chiriquensis is described as new.

RILEY, J. H. On the remains of an apparently reptilian character in the Cotingidæ.

Proc. Biol. Soc. Washington, 27, July 10, 1914, pp. 148, 149.

Notes on supposed pores in the tarsal scales in certain genera of the Cotingidæ.

An apparently new *Sporophila* from Ecuador.

Proc. Biol. Soc. Washington, 27, Oct. 31, 1914, p. 213.

Sporophila incerta is described as new.

SHUFELDT, R. W. Osteology of the passenger pigeon (*Ectopistes migratorius*).

Auk, 31, No. 3, July, 1914, pp. 358-362, pl. 34.

An account of the skeleton of this species.

On the oology of the North American Pygopodes.

Condor, 16, No. 4, July 25, 1914, pp. 169-180, figs. 50-54.

Illustrations of and notes on the eggs of the grebes and loons.

Reder og æg af Nordamerikanske Kolibrer (*Trochili*).

Dansk. Ornith. Forenings Tidsskrift, 8, Hæfte 4, Aug., 1914, pp. 187-195, pls. 2-8.

Describes the nests and eggs of North American hummingbirds.

American bob-white and quails.

Oster's Book, 28, 1914, No. 3, Sept., pt. 1, pp. 248-252, figs. 1-3; No. 4, Oct., pt. 2, pp. 356-360, figs. 4-6; No. 5, Nov., pt. 3, pp. 479-482, figs. 7-9; No. 6, Dec., pt. 4, pp. 575-579, figs. 10-13.

An account of the bob-white and related birds of North America.

SHUFELDT, R. W. Contribution to the study of the "tree-ducks" of the genus *Dendrocygna*.

Zool. Jahrb., 38 (Abt. für Syst.), Heft 1-2, 1914, pp. 1-70, pls. 1-16.

An account, chiefly osteological, of the genus *Dendrocygna*. The tree-ducks are here considered as a subfamily, related to the ducks rather than to the geese.

— Death of the last of the wild pigeons.

Sci. Amer. Suppl., 78, No. 2024, Oct. 17, 1914, p. 253, 1 fig.

Notice of the individual lately living in the Cincinnati zoological gardens.

— The last of the passenger pigeons.

Recreation, 51, No. 5, Nov., 1914, p. 277, figs. 1, 2.

Another notice of the above.

— Anatomical notes on the young of *Phalacrocorax atriceps georgianus*.

Mus. Brooklyn Inst. Arts and Sci., Sci. Bul., 2, No. 4, Nov. 5, 1914, pp. 95-102, pls. 17, 18.

— On the skeleton of the ocellated turkey (*Agriocharis ocellata*) with notes on the osteology of other *Meleagridæ*.

Aquila, 21, Nov. 15, 1914, pp. 1-52, pls. 1-14.

An account of the skeleton of *Agriocharis ocellata*, with comparative notes on the genus *Meleagris*.

— "The turkey prehistoric" and "The turkey historic."

Chaps. 3 and 4 in *The Wild Turkey and its Hunting*, by Edward A. McIlhenny; Doubleday, Page & Co., New York, 1914.

— Anatomical and other notes on the passenger pigeon (*Ectopistes migratorius*) lately living in the Cincinnati Zoological Gardens.

SHUFELDT, R. W.—Continued.

Auk, 32, No. 1, Jan., 1915, pp. 29-41, pls. 4-6.

— A unique photograph—the last passenger pigeon.

Blue-Bird, 7, No. 4, Jan., 1915, pp. 85, 86, 1 pl.

Note on the passenger pigeon that died in the zoological gardens at Cincinnati, Sept. 1, 1914—the last of its race.

— Review of the wild geese of North America.

Oster's Book, 29, 1915, No. 2, Feb., pt. 1, pp. 143-147, figs. 1-3; No. 3, Mar., pt. 2, pp. 241-245, figs. 4-8.

— Eggs of North American water birds.

Blue-Bird, 7, No. 6, Mar., 1915, (Introduction), pp. 147-149, pl. 1; No. 8, May, pt. 1, pp. 212-217, pls. 2-4.

Account of the eggs of the North American auks.

SWARTH, HARRY S. The California forms of the genus *Psaltiriparus*.

Auk, 31, No. 4, Oct., 1914, pp. 499-526, pl. 40.

Three subspecies are recognized as occurring in California.

TODD, W. E. CLYDE. Preliminary diagnoses of apparently new South American birds.

Proc. Biol. Soc. Washington, 28, Apr. 13, 1915, pp. 79-82.

Brief diagnoses of the following: *Brachyopsis capensis hypoleuca*, *Sporophila hypochroma*, *Pheugopedius fasciatoventris cognatus*, *Hypolophus pulchellus phainoleucus*, *Eriornotus punctatus subcinereus*, *Drymophila caudata hellmayri*, *Herpsilochmus sticturus nigrescens*, *Formicarius moniliger virescens*, *Grallaria varia carmelita*, *Setopagis heterurus*, *Pionus sordidus saturatus*, *Pettitacula passerina cyanophanes*, *Aratinga aruginosa occidentalis*, *Pyrrhura molina australis* and *Penelope speciosa*.

WETMORE, ALEX. A peculiarity in the growth of the tail feathers of the giant hornbill (*Rhinoplax vigil*).

Proc. U. S. Nat. Mus.,
47, No. 2059, Oct.
24, 1914, pp. 497-
500.

WETMORE, ALEX.—Continued.

Describes an aberrant condition in the tail of this species, in which only one feather of the middle pair is moulted each year, instead of the synchronous renewal obtaining in other birds.

REPTILES AND BATRACHIANS.

BARBOUR, THOMAS. Recent notes regarding West Indian reptiles and amphibians.

Proc. Biol. Soc. Wash-
ington, 28, Mar. 12,
1915, pp. 71-78.

Based in part on specimens from Porto Rico and Guadeloupe in the U. S. National Museum.

RICHARDSON, C. H. Reptiles of north-western Nevada and adjacent territory.

Proc. U. S. Nat. Mus.,
48, No. 2078, Jan.
19, 1915, pp. 403-
435.

Report on collections obtained by the author and Prof.

RICHARDSON, C. H.—Continued.

J. O. Snyder while pursuing ichthyological investigations for the U. S. Bureau of Fisheries in the so-called Lahontan Basin during 1911. New subspecies described are *Callisaurus ventralis myurus* and *Uta stansburiana hesperia*.

STEJNEGER, LEONHARD. A new species of tailless batrachian from North America.

Proc. Biol. Soc. Wash-
ington, 28, June 29,
1915, pp. 131, 132.

Described as a new species *Syrrophus campii*, from Brownsville, Texas.

FISHES.

GILBERT, CHARLES HENRY. Fishes collected by the United States Fisheries steamer "Albatross" in southern California in 1904.

Proc. U. S. Nat. Mus.,
48, No. 2075, Jan.
28, 1915, pp. 805-
880, pls. 14-22.

In this paper the following forms are figured and described as new: *Raja montereyensis*, *Xenognathus*, new genus (*Alcipocephalidae*), *X. profundorum*, *Lampanyctus ritteri*, *Zastomias*, new genus (*Stomiidae*), *Zastomias scintillans*, *Melamphaes bipinosus*, *M. nycterinus*, *Sebastes wilsoni*, *Ioclinus fuscescens*, *Asteroiheca*, new genus (*Agonidae*), *Xenopyx*, new subgenus (*Agonidae*), *Xeneretmus leiops*, *X. ritteri*, *Paraliparis caudatus*, *P. albescentis*, *Lipariscus*, new genus (*Liparidae*), *L. nanus*, *Embryx parallelus*,

GILBERT, CHARLES HENRY—Continued.

Maynea californica, *Lycogramma*, new genus (*Zoaridae*), *Bothrocara remigera*, *Lycodapus mandibularis*, *L. lyodon*, *L. attenuatus*, *L. grossidens*, *Nematonurus abyssorum*, *Monoceratias*, new genus (*Ceratidae*), *M. acaanthias*.

HUBBS, CARL L. Flounders and soles from Japan collected by the United States Bureau of Fisheries steamer "Albatross" in 1906.

Proc. U. S. Nat. Mus.,
48, No. 2082, Mar.
20, 1915, pp. 449-
496, pls. 25-27.

This paper lists 54 species of flounders and soles found in the coastal waters of Japan, 9 of which are described and figured as new. Three new genera, *Citharoides*, *Psettina* and *Læophtothys*, are included.

MOLLUSKS.

BARTSCH, PAUL. Preliminary report on the Bahama cerions planted on the Florida Keys.

Carnegie Inst. of Washington, Year Book,
No. 13, 1915, p. 196.

Abstract of report on breeding experiments with Bahama cerions.

— Report on the Bahama cerions planted on the Florida Keys.

Carnegie Inst. of Washington, Publication
No. 212, 1915, pp.
203-212, pls. 1-8.

Discusses breeding experiments with Bahama cerions planted on Florida Keys, reports the status of the various original plantings, discusses new importations, transplantations of first generation of Florida-grown specimens, and records observations on the adult specimens of first generation of Florida-grown individuals with tabulated data.

— Experiments with cerions in the Florida Keys.

Smithsonian Misc. Colls., 65, No. 6,
June 30, 1915, pp.
86-40, figs. 38-40.

Brief report on breeding experiments with Bahama cerions.

— (See also under John B. Henderson.)

DALL, WILLIAM HEALEY. Notes on West American Emarginulinae.

Nautilus, 28, No. 6,
Oct., 1914, pp.
62-64.

This paper, based on U. S. National Museum material, points out the anatomical differences between Arctic and Antarctic species of this family; describes as new: *Puncturella multistriata*, *P. caryophylla* and *P. longifassa*, all from the Pacific coast, and maintains the specific rank of *P. cognata* Gould from Patagonia.

DALL, WILLIAM HEALEY. Mollusca from South Georgia.

Mus. Brooklyn Inst. Arts & Sci., Sci. Bull. 2, No. 4, Nov.
5, 1914, pp. 69, 70.

Enumerates the species collected by the South Georgia expedition of which the specimens are in the U. S. National Museum.

— On some generic names first mentioned in the "Conchological Illustrations."

Proc. U. S. Nat. Mus.,
48, No. 209, Jan.
19, 1915, pp. 437-
440.

Contains nomenclatorial data, and proposes for the Californian *Fissurella crenulata* of Sowerby, the new generic name *Macrochaasma*.

— The earliest notice of a species of the genus *Gundlachia*.

Nautilus, 28, No. 11,
Mar., 1915, pp. 128,
129.

A minute shell, which has been referred to the young of *Navicella*, was described by Martin Vahl in 1798, as *Patella aponegetonis*. The characters, however, accord better with the genus *Gundlachia*.

— Notes on the Semelidæ of the west coast of America, including some new species.

Proc. Acad. Nat. Sci. Phila., Mar. 2, 1915,
pp. 25-28.

Based on material in the U. S. National Museum, this paper enumerates the species of the Pacific coast, with corrected nomenclature, and the designation of the following new species: *Semele rupicola*, *S. regularis*, *S. pacifica*, *Abra pacifica*, *A. tepicana* and *A. palmeri*. *Semele sparsilineata* is proposed for *S. variegata* Hupe not Lamarck.

DALL, WILLIAM HEALEY. An index to the Museum Boltenianum.

Smithsonian Inst. Special pub. No. 2360, Mar. 8, 1915, pp. 1-64.

An index to the names of mollusks given in the publication of 1798, together with a note on the history of the work and English translations of the Latin and German prefaces of the original.

— A new species of *Modiolaria* from Bering Sea.

Nautilus, 28, No. 12, Apr., 1915, p. 138.

Musculus phenax, from the Pribilof Islands, in Alaska, is described as new. The types are in the U. S. National Museum.

FRIERSON, L. S. A new pearly freshwater mussel of the genus *Hyria* from Brazil.

Proc. U. S. Nat. Mus., 47, No. 2053, Oct. 29, 1914, p. 363, pl. 12.

Describes *Hyria amasonia*.

HENDERSON, JOHN B. Rediscovery of Pourtales' *Hallotis*.

Proc. U. S. Nat. Mus., 48, No. 2091, May

HENDERSON, JOHN B.—Continued.

22, 1915, pp. 659-661, pls. 45, 46.

Describes and figures a unique specimen of *Hallotis* (*Padollus*) *pourtalesii* Dall dredged by Mr. Henderson off Sand Key, Florida. He gives the new name *Hallotis* (*Padollus*) *dalli* to the Pacific representative of this genus, described as *Hallotis pourtalesii*? Dall.

— and PAUL BARTSCH. Littoral marine mollusks of Chincoteague Island, Virginia.

Proc. U. S. Nat. Mus., 47, No. 2055, Oct. 29, 1914, pp. 411-421, pls. 13, 14.

A short paper on the results of a day's dredging at Chincoteague Island, Va. A list of species collected is given and the following are described as new: *Epttonium virginicum*, *Turbonilla* (*Pyrgiscus*) *powhatan*, T. (P.) *pocahontasa*, T. (P.) *toyatani*, T. (P.) *virginica*, *Odostomia* (*Chrysallida*) *toyatani*, O. (*Evalea*) *virginica*, O. (*E.*) *pocahontasa*, *Triphoris pyrrha*, *Diatoma virginica*, *Cerithiopsis* (*Cerithiopsis*) *virginica*.

ONYCHOPHORES.

CLARK, AUSTIN H. On some onychophores (*Peripatus*) from the Republic of Panama.

Zool. Anzeiger, 45, No. 4, Dec. 4, 1914, pp. 145, 146.

The recently described *Peripatus* (*Peripatus*) *rufer* Fuhrmann is recorded from Panama and some notes on the habits of *Oroperipatus corradot* (Camerano) are given.

CLARK, AUSTIN H. The present distribution of the Onychophora, a group of terrestrial invertebrates.

Smithsonian Misc. Colls., 65, No. 1, Jan. 4, 1915, pp. 1-25.

The present distribution of the Onychophores is discussed along the lines of biological paleogeography, and a list of all the recent species, with their habitat, is given.

INSECTS.

ALEXANDER, CHARLES P. Description of new species of crane-flies from Central America.

Proc. U. S. Nat. Mus., 48, No. 2080, Feb. 11, 1915, pp. 441-444, pl. 24.

Five new species are described.

BARBER, H. S. Prothetely or semi-pupal stage in *Lopheros fraternus* Rand.

Psyche, 21, No. 6, Dec., 1914, pp. 190-192, fig. 1.

BÖVING, ADAM. (See under August Busck.)

BUSCK, AUGUST. New Microlepidoptera from Hawaii.

Insecutor Inscitiae Menstruus, 2, No. 7, Aug. 3, 1914, pp. 103-107.

Describes the new genus *Petrochroa* (family Cygnodidae) and 5 new species.

— Descriptions of new Microlepidoptera of forest trees.

Proc. Ent. Soc. Washington, 16, No. 4, Dec. 30, 1914, pp. 143-150, pls. 7, 8 (figs. 1, 2, 4).

Describes 10 new species.

— Life history of *Eucosma haracana* Kearfott.

Proc. Ent. Soc. Washington, 16, No. 4, Dec. 30, 1914, p. 150, pl. 8 (fig. 3).

— Descriptions of new North American Microlepidoptera.

Proc. Ent. Soc. Washington, 17, No. 2, June, 1915, pp. 79-94.

Describes 1 new genus and 30 new species.

— and ADAM BÖVING. On *Mnemonica auricyanea* Walsingham.

Proc. Ent. Soc. Washington, 16, No. 4, Dec. 30, 1914, pp. 151-168, pls. 9-16.

Describes the early stages and habits.

CAUDELL, A. N. Orthoptera of the Yale-Dominican expedition of 1913.

Proc. U. S. Nat. Mus., 47, No. 2058, Oct. 24, 1914, pp. 491-495.

Records the material collected and describes 2 new species.

— *Rhabdoblatta brunneonigra*, a new cockroach from China.

Proc. Ent. Soc. Washington, 17, No. 2, June 8, 1915, pp. 94, 95, fig. 1.

— Notes on some United States grasshoppers of the family Acrididae.

Proc. U. S. Nat. Mus., 49, No. 2093, June 12, 1915, pp. 25-31.

Describes 4 new genera, 1 of which is based on new species and 3 on old species, also 1

CAUDELL, A. N.—Continued.

new variety. Tabulates the genera allied to *Heliastna*. Gives notes on the synonymy of various species and genera. Proposes 1 new name to replace a preoccupied one.

COCKERELL, T. D. A. A new carpenter bee from California.

Insecutor Inscitiae Menstruus, 2, No. 7, Aug. 3, 1914, pp. 101-103.

Describes *Xylocopa libocedri* n. sp.

— (See also under Henry L. Viereck.)

CRAWFORD, J. C. Some species of the bee genus *Cœlioxya*.

Annals Ent. Soc. Amer., 7, No. 2, June, 1914, pp. 148-159, figs. 1-6.

Gives a key to the females and describes 8 new species and 1 new variety.

— New Philippine Hymenoptera.

Philippine Journ. Sci., 9, No. 5, Sec. D, Sept., 1914, pp. 457-464.

Describes 14 new species.

— Notes on the chalcidoid family Callimomidae.

Proc. Ent. Soc. Washington, 16, No. 3, Sept. 26, 1914, pp. 122-126.

Describes 1 new subfamily, 4 new genera and 8 new species.

— Some new Chalcidoidea.

Insecutor Inscitiae Menstruus, 2, No. 12, Jan. 14, 1915, pp. 180-182.

Describes 3 new species.

— Descriptions of new Hymenoptera, No. 9.

Proc. U. S. Nat. Mus., 48, No. 2087, May 3, 1915, pp. 577-586, figs. 1-11.

Describes 10 new species and gives notes on other species.

— A new species of the genus *Secodella*.

Proc. Ent. Soc. Washington, 17, No. 2, June 8, 1915, p. 100.

Describes *S. argyresthes* n. sp.

CUSHMAN, R. A. A revision of the North American species of the Braconid genus *Habrobracon* Johnson (Ashmead).

Proc. Ent. Soc. Washington, 16, No. 8, Sept. 26, 1914, pp. 99-109.

Gives a key to the species and describes 2 new species.

— Descriptions of six new species of Ichneumonidae.

Proc. U. S. Nat. Mus., 48, No. 2085, Mar. 18, 1915, pp. 507-513.

Describes 6 new species and gives notes on the synonymy of the genus *Bassus*.

DE GRAYSE, J. J. (See under Carl Heinrich.)

DYAR, HARRISON G. A new Phycitid injurious to pine.

Insecutor Inscitiae Menstruus, 2, No. 7, Aug. 8, 1914, p. 112.

Describes *Pinipsectia erythropasa* n. sp.

— A new Saturnian from Mexico.

Insecutor Inscitiae Menstruus, 2, No. 7, Aug. 8, 1914, pp. 107, 108.

Describes *Copasa mannana* n. sp.

— A new Syntomid from Cuba.

Insecutor Inscitiae Menstruus, 2, No. 7, Aug. 8, 1914, pp. 111, 112.

Describes *Zellatilla columbia* n. g., n. sp.

— The larvæ of some Lepidoptera from Mexico.

Insecutor Inscitiae Menstruus, 2, No. 8, Aug. 31, 1914, pp. 113-117.

The larvæ of 9 species are described.

— Utethelsa in Porto Rico.

Insecutor Inscitiae Menstruus, 2, No. 9, Oct. 2, 1914, pp. 129-131.

Describes 2 new varieties of *U. ornatrix*.

DYAR, HARRISON G. Note on Hemihyalea and some species of *Amastus*.

Insecutor Inscitiae Menstruus, 2, No. 10, Oct. 19, 1914, pp. 146-151.

Gives a key to the species of Hemihyalea and one for *Amastus*, describing 1 new species in each genus.

— Descriptions of new species and genera of Lepidoptera from Mexico.

Proc. U. S. Nat. Mus., 47, No. 2054, Oct. 24, 1914, pp. 365-409.

Describes 20 new genera, 134 new species and 1 new subspecies.

— Lepidoptera of the Yale-Dominican expedition of 1913.

Proc. U. S. Nat. Mus., 47, No. 2056, Oct. 24, 1914, pp. 423-426.

Describes 7 new species and 1 new subspecies and gives records for all material collected.

— New American Lepidoptera.

Insecutor Inscitiae Menstruus, 2, No. 11, Dec. 7, 1914, pp. 161-164.

Describes 11 new species and 1 new variety.

FELT, E. PORTER. New genera and species of gall midges.

Proc. U. S. Nat. Mus., 48, No. 2072, Jan. 19, 1915, pp. 195-211, figs. 1-15.

Gives geographic distribution of the genera of the family Asphondyliariæ and describes 7 new genera and 10 new species.

FISHER, W. S. A new species of *Callichroma* from Texas.

Proc. Ent. Soc. Washington, 16, No. 8, Sept. 26, 1914, pp. 97, 98.

Describes *C. schwarzi* and gives a key to the species of America north of Mexico.

FISHER, W. S. One new genus and two new species of Cerambycidae.

Proc. Ent. Soc. Washington, 17, No. 2, June 8, 1915, pp. 77-79.

Describes *Hylotrupes junperi* n. sp. and *Paratimla conticola* n. g., n. sp.

FOX, CARROLL. Some new Siphonaptera.

Hygienic Laboratory, Washington, Bull. No. 97, Oct., 1914, pp. 7-16, pls. 1-5.

GAHAN, A. B. Descriptions of new genera and species, with notes on parasitic Hymenoptera.

Proc. U. S. Nat. Mus., 48, No. 2068, Dec. 16, 1914, pp. 155-168.

Two new genera and 13 new species are described and notes in the synonymy of species are given.

GIRAULT, A. A. Descriptions of new chalcid-flies.

Proc. Ent. Soc. Washington, 16, No. 3, Sept. 26, 1914, pp. 109-119.

Of the species described in this paper, the types of 2 and paratypes of 1 are in the U. S. National Museum.

HEIDEMANN, OTTO. A new species of North American Tingitidae.

Proc. Ent. Soc. Washington, 16, No. 3, Sept. 26, 1914, pp. 136, 137, 1 fig.

Describes *Gargaphia solani* n. sp.

HEINRICH, CARL. A new Californian Coleophora on plum.

Insector Insectia Menstruus, 2, No. 10, Oct. 19, 1914, p. 145.

Describes *C. sacramento* n. sp.

— and J. J. DE GRAYSE. On *Acrocercops strigifinitella* Clemens.

Proc. Ent. Soc. Washington, 17, No. 1, Mar. 16, 1915, pp. 6-23, pls. 1-9.

A full account of the life history and descriptions of the immature stages are given.

HOPKINS, A. D. List of generic names and their type-species in the coleopterous superfamily Scolytoidea.

Proc. U. S. Nat. Mus., 48, No. 2068, Dec. 16, 1914, pp. 115-136.

The author gives a list of the generic names used in the group, the reference to the original description of each genus, the number of species originally included, the type of the genus and the region from which it came.

— Preliminary classification of the superfamily Scolytoidea.

U. S. Dept. Agric., Bur. Ent., Tech. Ser., 17, pt. 2, Jan. 9, 1915, pp. i-vi, 165-232, pls. 9-16, figs. 96-112.

Describes *Webbia diptero-caryi* n. g., n. sp. Gives an account of the characters and terminology used.

— Classification of the Cryphalinae, with descriptions of new genera and species.

U. S. Dept. Agric. Report No. 99, Mar. 10, 1915, pp. 1-75, pls. 1-4, fig. 1.

Describes 23 new genera and 200 new species.

— Notes on Ipidae with description of a new species.

Proc. Ent. Soc. Washington, 17, No. 1, Mar. 16, 1915, p. 54.

Describes *Ips radiata* new species.

— A new genus of scolytoid beetles.

Journ. Washington Acad. Sci., 5, No. 12, June 19, 1915, pp. 429-433.

Describes the new genus *Conophthorus* and 14 new species; gives a key to the species.

KNAB, FREDERICK. Supplementary notes on Peruvian Simuliidae.

Proc. Biol. Soc. Washington, 27, July 10, 1914, pp. 123, 124.

Describes 1 new species.

KNAB, FREDERICK. A review of our species of *Trigonometopus* (Diptera; Lauxaniidæ).

Psyche, 21, No. 4, Aug., 1914, pp. 123-126.

Gives a key to the species and describes 2 new species.

— The oriental *Trigonometopine* flies.

Insecutor Inscitiae Menstruus, 2, No. 9, Oct. 2, 1914, pp. 131-133.

Describes *Diplochasma* n. g. and *Trigonometopus setosus* n. sp.

— Two North American Syrphidæ.

Insecutor Inscitiae Menstruus, 2, No. 10, Oct. 19, 1914, pp. 151-153.

Describes *Syrphus diversifasciatus* n. sp.

— Drosophilidæ with parasitic larvæ.

Insecutor Inscitiae Menstruus, 2, No. 11, Dec. 7, 1914, pp. 165-169.

Describes *Gitonides perspicua* n. g. and n. sp. and *Titanochata ichneumon* n. g. and n. sp.

— A new *Cuterebra* from Panama.

Insecutor Inscitiae Menstruus, 2, No. 12, Jan. 14, 1915, pp. 187, 188.

Describes *C. maculosa* n. sp.

— New data and species in Simuliidæ.

Insecutor Inscitiae Menstruus, 2, No. 12, Jan. 14, 1915, pp. 177-180.

Describes 2 new species of Simulium.

— Some West Indian Diptera.

Insecutor Inscitiae Menstruus, 3, Nos. 1-4, May 15, 1915, pp. 46-50.

Describes 2 new species.

MCATEE, W. L. Key to the nearctic genera and species of Geocorinæ.

Proc. Biol. Soc. Washington, 27, July 10, 1914, pp. 125-136.

Based largely on U. S. National Museum material from which are described 1 new species and 1 new variety.

MIDDLETON, WILLIAM. Notes on some sawfly larvæ belonging to the genus *Dimorphopteryx*.

Proc. U. S. Nat. Mus., 48, No. 2083, Mar. 18, 1915, pp. 497-501, pl. 28, figs. 1-4.

Describes the known larvæ of the species of the genus.

MYERS, P. R. Results of the Yale-Peruvian expedition of 1911.—Addendum to the Hymenoptera Ichneumonoidea.

Proc. U. S. Nat. Mus., 47, No. 2052, Oct. 24, 1914, pp. 361, 362.

Describes *Trachysphyrus venustus* n. sp.

PIERCE, W. DWIGHT. Descriptions of two new species of Strepsiptera parasitic on sugar cane insects.

Proc. Ent. Soc. Washington, 16, No. 3, Sept. 26, 1914, pp. 126-129.

Describes 2 new genera and 2 new species.

ROHWER, S. A. Synopsis of the North American species of the genus *Capitoniulus* Brulle.

Can. Ent., 46, No. 9, Sept. 8, 1914, pp. 316-322.

Gives a key to the species of the genus and describes 5 new species and proposes 1 new name for a preoccupied one.

— Descriptions of two parasitic Hymenoptera.

Proc. Ent. Soc. Washington, 16, No. 8, Sept. 26, 1914, pp. 141, 142.

— Vespid and sphecoid Hymenoptera collected in Guatemala by W. P. Cockerell.

Proc. U. S. Nat. Mus., 47, No. 2061, Oct. 24, 1914, pp. 513-523.

Eleven new species are described.

— Description of a new sawfly injurious to strawberries.

Journ. of Economic Ent., 7, No. 6, Dec., 1914, pp. 479-481.

Describes *Empria fragariae* n. sp.

ROHWER, S. A. Synopsis of the species of sawflies belonging to the genus *Dimorphopteryx*.

Proc. U. S. Nat. Mus.,
48, No. 2081, Feb.
11, 1915, pp. 445-
448.

Gives a table of the species of the pinguis group and describes 8 new species.

— Some oriental sawflies in the Indian Museum.

Records Indian Museum, 11, pt. 1, No. 4, Feb., 1915, pp. 89-53.

This paper is based in part on material in the U. S. National Museum and in it the author describes 2 new genera and 11 new species. Of these new species paratypes of 7 and the allotype of 1 are in the collection of the U. S. National Museum.

— Description of a new seed chalcid from spruce.

Can. Ent., 47, No. 3,
Mar. 10, 1915, pp.
97, 98, 1 fig.

Describes *Megastigmus picea* n. sp.

— Descriptions of Braconidæ.

Proc. Ent. Soc. Washington, 17, No. 1,
Mar. 16, 1915, pp.
55, 56.

Gives a key to the 2 North American species of *Allodorus*, 1 of which is described as new; describes *Maurocentrus agertia* n. sp.

TOWNSEND, CHARLES H. T. New muscoid flies, mainly Hystriclidæ and Pyrrhosiinæ from the Andean Montaña.

Insector Insectia Menstruus, 2, No. 8, pp. 123-128, Aug. 31, 1914; No. 9, pp. 133-144, Oct. 2, 1914; No. 10, pp. 153-160, Oct. 19, 1914; No. 11, pp. 169-176, Dec. 7, 1914; No. 12, pp. 188-187, Jan. 14, 1915.

Describes 12 new genera, 33 new species and 5 new subspecies. Gives notes on other species and genera.

TOWNSEND, CHARLES H. T. A genus of Hystriciline flies with white maggots.

Insector Insectia Menstruus, 3, Nos. 1-4, May 15, 1915, pp. 45, 46.

Describes *Sorochemyla oroya* n. g., n. sp.

— An acalyptrate genus of Muscolidea.

Insector Insectia Menstruus, 3, Nos. 1-4, May 15, 1915, p. 41.

Describes *Eucordylidemia ategulata* n. g., n. sp.

— A pollistiform genus of muscoid flies.

Insector Insectia Menstruus, 3, Nos. 1-4, May 15, 1915, pp. 43, 44.

Describes *Pollistiopsis mima* n. g., n. sp.

— Correction of the misuse of the generic name *Musca*, with description of two new genera.

Journ. Washington Acad. Sci., 5, No. 12, June 19, 1915, pp. 433-436.

Describes 2 new genera.

VIERECK, HENRY L., and T. D. A. Cockerell. New North American bees of the genus *Andrena*.

Proc. U. S. Nat. Mus., 48, No. 2064, Nov. 28, 1914, pp. 1-58.

Of the forms described, the types of 29 and paratypes of 1 are in the U. S. National Museum.

WALTON, W. R. A new Tachinid parasite of *Diapheromera femorata* Say.

Proc. Ent. Soc. Washington, 16, No. 3, Sept. 26, 1914, pp. 129-132, 1 pl.

Describes *Euhallidaya acerintii* n. g., n. sp.

— Report on some parasitic and predaceous Diptera from northeastern New Mexico.

Proc. U. S. Nat. Mus., 48, No. 2070, Dec. 16, 1914, pp. 171-186, pls. 6, 7.

Two new genera and 3 new species are described.

WILLIAMSON, EDWARD BRUCE. Notes on neotropical dragonflies, or Odonata.

Proc. U. S. Nat. Mus.,
48, No. 2089, May 12,
1915, pp. 601-638,
pls. 38-44, 1 fig.

WILLIAMSON, EDWARD BRUCE—Contd.

This paper is in part based on Museum material and paratypes of 7 of the new species described are in the U. S. National Museum.

CRUSTACEANS.

HANSEN, H. J. The Crustacea Euphausiacea of the United States National Museum.

Proc. U. S. Nat. Mus.,
48, No. 2085, Jan.
19, 1915, pp. 59-
114, pls. 1-4.

Complete report on the Museum Euphausiacea, with descriptions and figures of several forms, and an enumeration of the localities for every species.

RATHBUN, MARY J. Stalk-eyed crustaceans collected at the Monte Bello Islands.

Proc. Zool. Soc. London, Sept., 1914, pp.
653-664, pls. 1, 2.

Describes 8 new species: *Periclitomenes hermitensis*, *Actaea glandifera* and *Glyptozanthus cymbifer*. Paratypes of these species are in the collection of the U. S. National Museum. A new name, *Thalamita dispar*, is given to one of the numerous forms related to *T. admete*, previously assigned by de Man to *T. savignyi*. Notes discovery that at least one of the marine crabs, *Nautiloides serpifer* (Guérin), undergoes transformation to adult form while still within the brood pouch of the mother.

— A new genus and some new species of crabs of the family Goneplacidae. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 32.]

Proc. U. S. Nat. Mus.,
48, No. 2087, Dec. 16,
1914, pp. 137-154.

Describes 17 new species: *Oarcinoplas dispinosa*, *C. spinosissima*, *C. confragosa*, *C. purpurea*, *C. angusta*, *C. verdensis*, *C. specularis*, *Peopheticus hughti*, *Goneplax renoculus*, *Ceratoplas fulgida*, *C. truncatifrons*, *Typhlocarcinus craterifer*, *Hephthopelta apta*, *Chas-*

RATHBUN, MARY J.—Continued.

mocarcinus cavimanus, *Typhlocarcinops decreescens*, *T. marginata*, *T. angustifrons*, *T. ocularia*, and a new genus, *Homoctoplas*, founded on *Pseudorhombilla haswelli* Miers.

— New fresh-water crabs (*Pseudothelphusa*) from Colombia.

Proc. Biol. Soc. Washington, 28, Apr. 13,
1915, pp. 95-100.

Describes 4 new species: *Pseudothelphusa pearsei*, *P. angulata*, *P. clausa*, *P. ruthveni*. The types are in the Museum of Zoology, University of Michigan; the paratypes and cotypes are in the U. S. National Museum.

— New species of decapod crustaceans from the Dutch West Indies.

Proc. Biol. Soc. Washington, 28, May 27,
1915, pp. 117-119.

Describes 2 new species: *Metapenaeus mobilispinis* (Family Penaeidae) and *Panopeus bakeri* (Family Xanthidae). The type specimens are in the Leiden Museum; the paratypes are in the U. S. National Museum.

— *Jacquiniotia*, a new crab name.

Proc. Biol. Soc. Washington, 28, June 29,
1915, p. 142.

Jacquiniotia a new name for *Prionorhynchus*, type *P. edwardi*, from Auckland Islands, Jacquinet (1853), which had been used by Leach for *P. cranchianus*, *Trans. Plymouth Inst.*, 1830.

SHOEMAKER, CLARENCE R. Amphipods of the South Georgia expedition.

Mus. Brooklyn Inst. Arts and Sci., Sci. Bull., 2, No. 4, Nov.
5, 1914, pp. 73-77.

An annotated list of the amphipods taken on the South

SHOEMAKER, CLARENCE R.—Contd.

Georgia expedition together with bibliography. Duplicates of the specimens upon which this paper is based are in the U. S. National Museum.

WILSON, CHARLES BRANCH. North American parasitic copepods belonging to the Lernaeopodidae, with a revision of the entire family.

Proc. U. S. Nat. Mus.,
47, No. 2063, Mar.
6, 1915, pp. 565-729,
pls. 25-56, figs.
1-15.

Twelve new genera and 21 new species are described. The new genera are *Salmincola*, *Lernaeopodina*, *Brianelle*, *Thom-*

WILSON, CHARLES BRANCH—Contd.

sonella, *Thysanotella*, *Clavellopsis*, *Clavellodes*, *Clavellisa*, *Parabrachiella*, *Epibrachiella*, *Probrachiella*, *Eubrachiella*. The new species are *S. oquassa*; *L. relata*, *Trachellastes grandis*; *B. corniger*; *Naobranchia occidentalis*; *Clavella perfida*, *C. tumida*, *C. canaliculata*, *C. insolit*, *C. levis*, *C. pinguis*, *C. squamigera*, *C. recta*, *C. trima*; *Clavellopsis producta*; *Clavellisa spinosa*, *C. oodata*; *Brachiella gulosa*, *B. mitrata*, *B. pinguis*, *B. nitida*. The ecology, morphology, physiology, ontogeny and taxonomy are fully discussed, and illustrated in part.

ANNULATES.

HALL, MAURICE C. Descriptions of a new genus and species of the discodrilid worms.

Proc. U. S. Nat. Mus.,
48, No. 2071, Dec.
16, 1914, pp. 187-
193, figs. 1-3.

Describes *Ceratodrilus thysanosomeus* belonging to the fam-

HALL, MAURICE C.—Continued.

ily Branchiobdellidae, new superfamily Branchiobdelloidea, from a crayfish found in streams of the Great Basin, Salt Lake City, Utah. Type specimen in the U. S. National Museum.

ECHINODERMS.

CLARK, AUSTIN H. The correlation between the bathymetrical and the geographical range in the recent crinoids.

Journ. Washington Acad. Sci., 4, No. 19, Nov. 19, 1914, pp. 558-564, figs. 1, 2.

A close correspondence is shown between the bathymetric range of the recent crinoids measured in fathoms, and the potential geographical range, measured in units of 15 degrees on each side.

— The relation between recent crinoids and the temperature of their habitat.

Journ. Washington Acad. Sci., 4, No. 20, Dec. 4, 1914, pp. 579-583, figs. 1-3.

From the available data it appears that the recent crinoids existing within the optimum temperature range for the group (55-65 Fahrenheit) are

CLARK, AUSTIN H.—Continued.

conservative in their characters, and approach most closely the related fossil types.

— The Atlantic Ocean biologically an inland sea.

Internationale Revue der gesamten Hydrobiologie und Hydrographie, 6 (suppl.), 1914, pp. 1-18.

A comparison between the crinoid fauna of the Atlantic and that of the Indo-Pacific region suggests that the former is essentially the fauna of an inland sea tributary to the Indo-Pacific.

— The geographical divisions of the recent crinoid fauna.

Journ. Washington Acad. Sci., 5, No. 1, Jan. 4, 1915, pp. 7-11.

The faunal regions into which the recent crinoids are, more or less sharply, segregated are outlined.

CLARK, AUSTIN H. The bathymetrical distribution of the Arctic and Antarctic crinoids.

Journ. Washington Acad. Sci., 5, No. 3, Feb. 4, 1915, pp. 76-82, figs. 1, 2.

A detailed comparison between the crinoid fauna of the Arctic and that of the Antarctic Ocean is given.

— On certain aspects of the bathymetrical distribution of the recent crinoids.

Journ. Washington Acad. Sci., 5, No. 4, Feb. 19, 1915, pp. 125-134, 1 fig.

The bathymetrical distribution of the recent crinoids in its relation to paleontological problems is considered.

— The bathymetrical and thermal distribution of the unstalked crinoids, or comatulids, occurring on the coasts of China and Japan.

Journ. Washington Acad. Sci., 5, No. 6, Mar. 19, 1915, pp. 213-218, figs. 1, 2.

The faunal relationships of the crinoids of China and Japan are discussed.

— The correlation of phylogenetic specialization and bathymetrical distribution among the recent crinoids.

Journ. Washington Acad. Sci., 5, No. 9, May 4, 1915, pp. 309-317, figs. 1, 2.

Phylogenetical specialization in its relationship to bathymetrical distribution among the recent crinoids is discussed.

— Die Crinoiden der Antarktis.

Deutsche Südpolar Exped., 16, (Zoologie vol. 8), May 16, 1915, pp. 103-209, pls. 1-10.

This is a complete monograph of the Antarctic crinoids, including a history of the subject, a systematic survey, and a full discussion of the faunal inter-relationships of the Antarctic regions.

— The crinoids collected by the Endeavour between Fremantle and Geraldton (Western Australia).

CLARK, AUSTIN H.—Continued.

Rec. West. Australian Mus. and Art Gallery, 1, pt. 3, 1915, pp. 113-131.

The crinoids collected by the "Endeavour" in southwestern Australia are listed, and two new species, representing a family new to the Australian region are described. The new species are *Neometra gorgonia* and *N. conaminitis*. Cotypes and duplicates of the specimens on which this paper is based are in the U. S. National Museum.

— Echinoderma II: Crinoidea.

Beitr. zur Kenntnis der Meeresfauna Westafrikas, published by W. Michaelsen (Hamburg), 1914, pp. 807-818.

This paper includes a discussion of the Atlantic crinoid fauna, an account of the crinoid fauna of the west coast of Africa, a survey of the genus *Troplometra*, and a revision of the genus *Antedon*.

— A monograph of the existing crinoids, I, The Comatulids, pt. 1.

Bull. U. S. Nat. Mus., No. 82, June 10, 1915, pp. i-vi, 1-406, pls. 1-17, figs. 1-513.

An introductory volume giving the history of the subject, and a description of the apical portion of the skeleton.

OHSHIMA, HIROSHI. Report on the holothurians collected by the United States Fisheries steamer "Albatross" in the northwestern Pacific during the summer of 1906.

Proc. U. S. Nat. Mus., 48, No. 2073, Feb. 11, 1915, pp. 213-291, pls. 8-11.

Records 11 species which for the first time are reported from the northwest Pacific and describes as new the following (44 species and 1 subspecies)—*Synallactes multivesiculatus*, *S. gilberti*, *Bathyploetes östergreni*, *Mesothuria media*, *Pseudostichopus aleutianus*, *P. molpadioides*, *P. arenosus*, *P. nudus*, *P. unguiculatus*, *Capheira mollis*, *Deima mosaicum*, *Orphnurgus rigidus*,

OHSHIMA, HIROSHI—Continued.

Pannychia moseleyi virgulifera,
Ilyodemon miurense, *Pentagone*
japonica, *Achlyonice monactin-*
ica, *Scotoplanes theeli*, *Benth-*
aytes gotoi, *Molpadia clarki*, *M.*
infesta, *Oaudina ludwigi*, *Cucu-*
maria itimai, *C. lamperti*, *C. spi-*
nosa, *C. sluiteri*, *C. constricta*,
C. globosa, *Thyone punctata*, *T.*
parva, *T. bicornis*, *T. imbricata*,
Pseudocucumis dactylicus, *P.*
watasei, *P. sagamiensis*, *P. tabu-*
latus, *Phyllrophorus cylindricus*,
P. glacius, *P. diomedea*, *P. minu-*
tus, *Psolidium vitreum*, *P. bulla-*
tum, *Protankyra kagoshimensis*,
Tanlogyrus cidaridis, *Tosodora*
pacifica, *Myriotrochus mitsu-*
kuri.

VERRILL, ADDISON EMERY. Report on
the starfishes of the West Indies,
Florida, and Brazil, including those
obtained by the Bahama expedition
from the University of Iowa in 1893.

Bull. Lab. Nat. Hist.,
Univ. Iowa, 7, No.
1 (n. s.), No. 92.

TROCHELMINTHS.

HARRING, HARRY K. Report on Rota-
toria from Panama with descriptions
of new species.

Proc. U. S. Nat. Mus.,
47, No. 2062, Dec.
15, 1914, pp. 525-
564, pls. 16-24.

Describes nineteen new spe-
cies: *Brachionus dolabratus*,
Lecane crepida, *L. sibina*, *L.*

VERRILL, ADDISON EMERY—Continued.

Mar. 20, 1915, pp.
1-232, pls. 1-29.

Of the 95 species described
or figured, specimens from the
collections of the U. S. National
Museum are represented in 45
instances. Twelve new species
and 3 new varieties are in-
cluded. Ten of the types of
the new species and of 2 va-
rieties are the property of the
Museum. At the end of the
paper a list of 44 additional
deep-water species, not re-
ported upon, has been appended
for the sake of completeness.
The morphologic and taxonomic
features of the Asteroidea are
briefly discussed. The new spe-
cies are as follows: *Stephanas-*
terias hebes, *Henrieta micro-*
spina, *Solaster caribbeus*,
Ophidiaster alexandria, *Chet-*
raster planus, *Ch. enoplus*, *Pec-*
tinaster nitidus, *P. gracilis*, *P.*
dispar, *Astropecten comptus*, *A.*
nitidus, *A. nuttingi*; New va-
rieties: *Astropecten nitidus* var.
fortipatus, *A. americanus* var.
subgracilis, *Luidia alternata*
var. *bicolor*.

HARRING, HARRY K.—Continued.

marahit, *L. ercodes*, *L. aronia*,
L. compta, *L. pusilla*, *L.*
aeganea, *L. doryssa*, *L. tenui-*
seta, *L. amorphia*, *L. elegans*,
Monostyla virga, *M. rugosa*,
Lepadella imbricata, *L. cyr-*
topus, *Trichocerca nitida*, *Col-*
lotheca polyphema. Notes on
distribution, habitat and pres-
ervation are included.

NEMATODES.

FOSTER, W. D. Observations on the
eggs of *Ascaris lumbricoides*.

Journ. Parasitol., Ur-
bana, Ill., 1, No. 1,
Sept., 1914, pp. 31-
36, figs. 1-4.

A report on the variations in
size and shape of eggs of
Ascaris lumbricoides from man
and swine.

— A peculiar morphologic develop-
ment of an egg of the genus *Tropido-*
cerca and its probable significance.

Journ. Parasitol., Ur-
bana, Ill., 1, No. 1,
Sept., 1914, pp. 45-
47, fig. 1.

FOSTER, W. D.—Continued.

Description of filamentous ap-
pendages found on the ends of
the egg, probably serving to hold
the eggs together in clumps.

HALL, M. C. A note on *Syngamus*
laryngeus from cattle in the Philip-
pine Islands.

Amer. Journ. Vet.
Med., Chicago, 10,
No. 6, June, 1915,
pp. 395, 396, figs.
1-3.

The second record of the
occurrence of this parasite based
on specimens in the U. S. Na-
tional Museum received from
Dr. Wm. Boynton, Manila, P. I.

— (See also under B. H. Ransom.)

RANSOM, B. H., and M. C. HALL. The life history of *Gongylonema scutatum*.

Journ. Parasitol., Urbana, Ill., 1, No. 3, Mar., 1915, p. 154.

Abstract of a paper read before the Helminthological Society of Washington, Dec. 17, 1914. Encysted larval nematodes were found in the body cavity of various species of

RANSOM, B. H., and M. C. HALL—Contd.

dung beetles (*Aphodius* and *Onthophagus*) at Bethesda, Md. Certain morphological characters suggested the possibility that they were the larvae of *Gongylonema*. Dissection of larval dung beetles disclosed the presence of young nematode larvae which agreed exactly with the embryos from the eggs of *Gongylonema scutatum*.

PLATYHELMINTHS.

HALL, M. C. [A second case of *Fasciola magna* in the sheep.]

Journ. Parasitol., Urbana, Ill., 1, No. 2, Dec., 1914, p. 106.

Abstract of remarks before the Helminthological Society of Washington, Sept. 22, 1914. Specimens in the U. S. National Museum collections collected from a sheep at Ovando, Mont. The parasite appears to be of rare occurrence in this host.

——— *Tænia saginata*. A case presenting structural abnormalities and

HALL, M. C.—Continued.

associated with spurious parasitism in an infant.

Journ. Amer. Med. Ass. Chicago, 64, No. 24, June 12, 1915, pp. 1972, 1973, 1 fig.

Report of a case in which a segment of the tapeworm contains two genital pores instead of one. Record of a case of spurious parasitism with the larvae of a beetle, *Tenebroides mauritanicus*.

CELENTERATES.

NUTTING, CHARLES CLEVELAND. American Hydroids, Pt. III. The Campanularidæ and the Bonneviellidæ.

Special Bull. U. S. Nat. Mus., Apr. 10, 1915, pp. 1-111, 1-126, pls. 1-27, figs. 1-70.

Describes 5 new species: *Campanularia spiralis*, *C. brevicaulis*, *Olytia sargassicola* (Campanularidæ); *Bonneviella superba*, *B. ingens* (Bonneviellidæ). Gives extended treatment of morphology, development, and taxonomy.

VAUGHAN, T. WAYLAND. Reef corals of the Bahamas and of southern Florida.

VAUGHAN, T. WAYLAND—Continued.

Carnegie Inst. of Washington, Year Book No. 13, 1915, pp. 222-226, figs. 7, 8.

Abstract of results of field work and experimental investigations on corals in the Bahamas and Florida during May and June, 1914.

——— Coral reefs and reef corals of the southeastern United States, their geologic history and significance.

Bull. Geol. Soc. Am., 26, 1914, pp. 58-60.

Abstract from the manuscript of a report prepared for publication elsewhere.

PROTOZOANS.

CUSHMAN, JOSEPH AUGUSTINE. A monograph of the Foraminifera of the North Pacific Ocean, Pt. 5, Rotallidæ.

Bull. U. S. Nat. Mus., No. 71, Apr. 24, 1915, pp. 1-vii, 1-87, pls. 1-31, figs. 1-62.

This is the fifth part of a work on the Foraminifera of the North Pacific Ocean. In it

CUSHMAN, JOSEPH AUGUSTINE—Contd.

the author describes 3 subfamilies, 17 genera, 93 species and 7 varieties; all but four of the species are figured. There are 4 new species: *Spirillina operculoides*, *S. guttata*, *Discorbis subtilosa*, *D. pulvinuloides*; and 3 new varieties: *Spirillina limbata* var. *papillosa*, *Discorbis globularis* var. *bradyi*, *Cymbalopora poyei* var. *bradyi*.

BOTANY.

CHASE, AGNES. Field notes on the climbing bamboos of Porto Rico.

Botan. Gaz., 58, No. 3, Sept., 1914, pp. 277-279, pl. 21.

——— A teretological specimen of *Panicum amarulum* Hitchc. & Chase.

Rhodora, 17, No. 195, Mar., 1915, p. 72.

COOK, O. F. A new genus of palms allied to *Archontophoenix*.

Journ. Washington Acad. Sci., 5, No. 4, Feb. 19, 1915, pp. 116-122.

——— *Glaucothea*, a new genus of palms from Lower California.

Journ. Washington Acad. Sci., 5, No. 7, Apr. 4, 1915, pp. 236-241.

——— *Tribroma*, a new genus of tropical trees related to *Theobroma*.

Journ. Washington Acad. Sci., 5, No. 8, Apr. 19, 1915, pp. 287-289.

GREENE, EDWARD L. Field-notes of western botany.—I.

Amer. Midland Naturalist, 3, No. 11, Aug., 1914, pp. 311-317.

——— New species of *Ranunculus*.

Amer. Midland Naturalist, 3, No. 12, Nov., 1914, pp. 333-335.

——— Violets of the District of Columbia, I.

Cybele Columbiana, 1, No. 1, Dec. 29, 1914, pp. 7-33.

——— *Manipulus Malvacearum*, I.

Cybele Columbiana, 1, No. 1, Dec. 29, 1914, pp. 33-36.

HITCHCOCK, A. S. A text-book of grasses.

The Macmillan Co., New York, 1914, pp. i-xvii, 1-276, frontispiece, figs. 1-63.

LEWTON, F. L. The Australian *Fugosias*.

Journ. Washington Acad. Sci., 5, No. 9, May 4, 1915, pp. 803-809.

LEWTON, F. L.—Continued.

The paper undertakes to demonstrate that a group of Australian plants related to the cottons and by many botanists placed in the genera *Hibiscus*, *Fugosia* or *Gossypium*, do not in reality belong to any of these, but constitute two distinct valid genera, *Notosylinon* and *Allogyne*, which are there diagnosed, the first named being published as a new genus.

MAXON, WILLIAM R. The North American species of *Psilogramme*.

Bull. Torrey Bot. Club, 42, No. 2, Feb. 27, 1915, pp. 79-86.

Critical notes, with key to the 8 species, 8 of which are described as new.

——— Notes on American ferns: IX.

Amer. Fern Journ., 5, No. 1, Mar., 1915, pp. 1-4.

Notes upon several United States species, including publication of the new name *Notholæna standleyi* to replace *N. hookeri* D. C. Eaton (1879), not Lowe (1856).

——— *Notholæna aschenborniana* and a related new species.

Amer. Fern Journ., 5, No. 1, Mar., 1915, pp. 4-7.

Describes *Notholæna hyalina*, a new species from Mexico.

——— *Polypodium marginellum* and its immediate allies.

Bull. Torrey Bot. Club, 42, No. 4, Apr. 24, 1915, pp. 219-225.

Discusses the 6 species of this group. Of these 2 are described as new: *Polypodium hessti*, from Porto Rico, and *P. edeninum*, from St. Helena.

——— Report upon a collection of ferns from western South America.

Smithsonian Misc. Colls., 65, No. 8, May 3, 1915, pp. 1-12.

Includes descriptions of 6 new species in the genera *Polypodium*, *Chellanthus*, *Notholæna*, and *Dryopteris*.

MAXON, WILLIAM R. Note on *Polypodium subtile* and a related species.

Amer. Fern Journ., 5,
No. 2, May, 1915,
pp. 50-52.

Proposes the new name *Polypodium oretatum* for a Jamaican species erroneously known as *P. albo-uncinatum* Baker.

PIPER, CHARLES V. *Andropogon halepensis* and *Andropogon sorghum*.

Proc. Biol. Soc. Washington, 28, Mar. 12,
1915, pp. 25-43.

The type of one of the new subspecies is in the National Herbarium.

SAFFORD, WILLIAM E. *Acacia cornigera* and its allies.

Journ. Washington Acad. Sci., 4, No.
13, July 19, 1914,
pp. 356-368.

The types of 7 of the new species described are in the National Herbarium.

——— New or imperfectly known species of bull-horn acacias.

Journ. Washington Acad. Sci., 5, No.
10, May 19, 1915,
pp. 355-360, figs.
1, 2.

The types of 2 of the new species are in the National Herbarium.

ST. JOHN, HAROLD. *Elymus arenarius* and its American representatives.

Rhodora, 17, No. 197,
May, 1915, pp. 98-
108.

The type of a new species described here, *Elymus strigatus*, is in the National Herbarium.

STANDLEY, PAUL C. A new *Amelanchier* from southeastern California.

Proc. Biol. Soc. Washington, 27, Aug. 13,
1914, pp. 197, 198.

——— The genus *Arthrocnemum* in North America.

Journ. Washington Acad. Sci., 4, No.
14, Aug. 19, 1914,
pp. 398, 399.

——— *Therorhodion glandulosum*, sp. nov.

North Amer. Flora, 29,
pt. 1, Aug. 31, 1914,
p. 45.

STANDLEY, PAUL C. A list of *Hepaticæ* from western North Carolina.

The Bryologist, 17,
No. 5, Oct. 14, 1914,
pp. 69-71.

——— New or notable species of *Amaranthus*.

Bull. Torrey Bot. Club,
41, No. 10, Oct. 30,
1914, pp. 505-510.

Includes descriptions of 2 new species.

——— The ferns of Brazos Canyon, New Mexico.

Amer. Fern Journ., 4,
No. 4, Dec. 28, 1914,
pp. 109-114, pls.
1, 2.

——— The genus *Choisya*.

Proc. Biol. Soc. Washington, 27, Dec. 29,
1914, pp. 221-224.

Includes descriptions of 3 new species.

——— Two plants new to the flora of Louisiana.

Torreya, 15, No. 1,
Jan. 13, 1915, pp.
9-11, fig. 1.

——— A new genus of *Chenopodiaceæ*, from Arizona.

Journ. Washington Acad. Sci., 5, No. 2,
Jan. 19, 1915, pp.
57-59.

——— The application of the generic name *Achyranthes*.

Journ. Washington Acad. Sci., 5, No. 3,
Feb. 4, 1915, pp.
72-76.

——— A new species of *Achyranthes* from Tobago.

Proc. Biol. Soc. Washington, 28, Apr. 13,
1915, pp. 87, 88.

——— The North American tribes and genera of *Amaranthaceæ*.

Journ. Washington Acad. Sci., 5, No. 11,
June 4, 1915, pp.
391-396.

——— (See also under E. O. Wooton.)

SWINGLE, WALTER T. A new genus, *Fortunella*, comprising four species of Kumquat oranges.

Journ. Washington Acad. Sci., 5, No. 5,
Mar. 4, 1915, pp.
165-176, figs. 1-5.

SWINGLE, WALTER T. *Merope angulata*, a salt-tolerant plant related to Citrus, from the Malay Archipelago.

Journ. Washington Acad. Sci., 5, No. 12, June 19, 1915, pp. 420-425, figs. 1, 2.

VAN ESELTINE, GLEN P. An abnormal specimen of *Citrullus vulgaris*.

Torreyia, 15, No. 3, Apr. 15, 1915, pp. 44, 45, figs. 1, 2.

WOOTON, E. O., and PAUL C. STANDLEY. Flora of New Mexico.

Contr. U. S. Nat. Herb., 19, June 24, 1915, pp. 1-794.

WOOTON, E. O., and PAUL C. STANDLEY—Continued.

A systematic account of all the phanerogams and vascular cryptogams known to occur in the State, accompanied by keys to the families, genera, and species. Notes upon habitat, range, and local distribution are included, as well as a citation of the type locality of each species. There are listed 2903 species, distributed among 848 genera. The volume contains also a geographic index of all the localities mentioned in the text.

GEOLOGY AND MINERALOGY.

CROSS, WHITMAN. Lavas of Hawaii and their relations.

Prof. Paper, U. S. Geol. Surv., 88, 1915, pp. 1-97, pls. 1-4, 1 insert.

A complete petrographic description of these rocks, including many in the collection of the U. S. National Museum.

MERRILL, GEORGE P. The Fisher, Polk County, Minnesota, meteorite.

Proc. U. S. Nat. Mus., 48, No. 2084, May 3, 1915, pp. 503-506, pl. 29.

Redescribes in detail an old and imperfectly described meteoric stone.

— On the monticellite-like mineral in meteorites, and on oldhamite as a meteoric constituent.

Proc. Nat. Acad. Sci., 1, May, 1915, pp. 802-808, figs. 1-5.

Shows that the monticellite-like mineral of German and other writers is in part at least a phosphate; also that the sulphide of calcium, oldhamite, is apparently a much more common constituent than is generally supposed.

POGUE, JOSEPH E. The turquoise. A study of its history; mineralogy, geology, ethnology, archaeology, mythology, folklore, and technology.

Memoirs Nat. Acad. Sci., 12, pt. 2, 8d

POGUE, JOSEPH E.—Continued.

memoir, 1915, pp. 1-206, frontispiece, pls. 1-22, figs. 1-5.

A summary of practically everything known concerning the mineral turquoise.

WHERRY, EDGAR T. Notes on wolframite, beraunite, and axinite.

Proc. U. S. Nat. Mus., 47, No. 2060, Oct. 24, 1914, pp. 501-511.

Mineralogical and chemical descriptions of 2 specimens of wolframite, 1 of beraunite, and 2 of axinite.

— The microspectroscope in mineralogy.

Smithsonian Misc. Coll., 65, No. 5, 1915, pp. 1-16, 1 fig.

Discussion of the use of the microspectroscope, of the results of the examination of about 200 minerals and gems in the National Museum collections with the instrument, and of the conclusions as to the value of the instrument for indicating the compositions of minerals and for their identification.

WRIGHT, FRED. E. Obsidian from Hrafninnuhryggur, Iceland: Its lithophyses and surface markings.

Bull. Geol. Soc. Amer., 26, No. 2, June 29, 1915, pp. 255-286, figs. 1-12.

WRIGHT, FRED. E.—Continued.

Describes the physical and chemical properties of these obsidians with especial reference to the formation of their included spherulites and lithophysæ, which are considered due to the influence of gases. "The general hydrostatic tension resulting from shrinkage of the central part of the cooling magma probably aided in this development, but the inclosed gas pressing against the walls of the cavity was also an important factor." Incidental attention is given to peculiar

WRIGHT, FRED. E.—Continued.

surface markings noted on several of the specimens which had previously been referred to by Merrill (Proc. U. S. Nat. Mus., vol. 40, 1911) as closely simulating the markings of the moldavites and which had been assumed by Suess to be indicative of a meteoric origin. It was shown that in this case the etchings were of terrestrial origin, and in this, as well as the condition of strain exhibited by the glass, the opinions advanced by Merrill were fully corroborated.

PALEONTOLOGY.

BERRY, EDWARD W. Two new Tertiary species of *Trapa*.

Torreyia, 14, No. 6,
June, 1914, pp. 105-
108, 1 fig.

Describes and figures 2 new species, *Trapa wilcoxensis* and *T. alabamensis*.

—— The affinities and distribution of the Lower Eocene flora of southeastern North America.

Proc. Amer. Philos. Soc., 53, No. 214,
June-July, 1914, pp.
129-250, 1 fig.

A very thorough discussion of the ecology, affinities, and distribution of the Lower Eocene flora of the region treated.

—— Additions to the Pleistocene flora of the southern states.

Torreyia, 14, No. 9,
Sept., 1914, pp. 159-
162.

Adds about 10 species to the late Pleistocene flora of the region.

—— The Mississippi River bluffs at Columbus and Hickman, Kentucky, and their fossil flora.

Proc. U. S. Nat. Mus.,
48, No. 2074, Jan.
28, 1915, pp. 293-
303, pls. 12, 13.

Discusses the stratigraphy and describes 17 species of plants from this area, showing thereby that the strata are of Pleistocene age and not early Eocene as heretofore supposed.

DALL, WILLIAM HEALEY. A monograph of the molluscan fauna of the

DALL, WILLIAM HEALEY—Continued.

Orthaulax pugnax zone of the Oligocene of Tampa, Florida.

Bull. U. S. Nat. Mus.,
No. 90, Jan. 21, 1915,
pp. i-xv, 1-173, pls.
1-26.

The types of this monograph are in the U. S. National Museum. The new genus *Microcerion* is described from a fossil land shell, and the following new species are added to the catalogue of those already known: *Bullimulus* (*Hyperaulax*) *tampae*, B. (H.) *ballistae*, B. (H.) *tortilla*, B. (H.) *remolina*, *Microcerion floridanum*, *Pupoides pilabryi*, *Planorbis tampaensis*, P. (*Torquais*) *ellus*, *Spiraxis tampae*, *Acteon tampae*, *Acteocina squarrosa*, *Bullaria* (*Haminea*?) *subcobastis*, *Conus illolus*, *O. designatus*, *Turris albidus*, *Drillia condominia*, *D. severina*, *D. sella*, *D. eupora*, *D. belothecca*, *D. spica*, *D. tecla*, *D. smilla*, *D. eupatoria*, *D. tama*, *D. glyphostoma*, *D. (Cymatosyrina) stifa*, *Mangilia illota*, *Cancellaria* (*Bivertopsta*) *subthomastae*, *O. (B.) depressa*, *Oliva posti*, *Olivella eutorta*, *O. collata*, *Marginella mollitor*, *M. infecta*, *M. gregaria*, *M. impagina*, *M. posti*, *M. intensa*, *M. myrina*, *Lyria silicata*, *Mitra syra*, *M. myra*, *Strigatella americana*, *Fasciolaria petrosa*, *Alectrion ursula*, *A. ethelinda*, *A. gardnerae*, *Anachis eutheria*, *Astypis cluthera*, *A. dicaria*, *A. acanthodes*, *Murex seangula*, *Tritonalia scabrosa*, *Typhis siphonifera*, *Rapana biconica*, *Eulima*

DALL, WILLIAM HEALEY—Continued.

boudicht, *Turbonilla* (*Ptycheulima*) *eihellina*, *Oyprea* *balista*, *Strombus* *nocylus*, *Bitium* (*priscum* var.?) *sora*, *B. adela*, *Corithium* *plectrum*, *Cerithopsis* *silicata*, *Lacuna* *precursor*, *Turritella* (*tampae* var.?) *medioconstricta*, *T. systoliata*, *T. litharia*, *T. atacta*, *Assiminea* *aldræ*, *Rissoina* *supralævigata*, *Amnicola* *adesta*, *Sium* *imporforatum*, *Calliostoma* *tampicum*, *Helicina* *posti*, *Nucula* *tampae*, *Leda* *posti*, *Arca* *grammatodonta*, *Glycymeris* *lamyi*, *Ostrea* *vaughani*, *Modiolus* *blandus*, *M.* (*Brachydontes*) *grammatus* var. *curtulus*, *M.* (*Gregarielle*) *minimus*, *Cardita* (*Glans*) *shepardi*, *Codakia* (*Jagonia*) *scurra*, *Phacoides* (*Belluina*) *tampænsis*, *Diplodonta* *catopotium*, *Erycina* *indecisa*, *Bornia* *tampæ*, *Cardium* (*Trigoniocardia*) *berderum*, *Callocardia* (*Agriopoma*) *nux*, *Tellina* *dira*, *T.* (*Angelus*) *atossa*, *Semele* *sardonica*, *Corbula* (*Cuneocorbula*) *kaghriana*.

GIDLEY, JAMES WILLIAMS. An extinct marsupial from the Fort Union with notes on the Myrmecobidae and other families of this group.

Proc. U. S. Nat. Mus.,
48, No. 2077, Jan.
28, 1915, pp. 395-
402, pl. 23.

Describes a new genus and species of marsupial, *Myrmecoboides montanensis*, comparing it especially with the living *Myrmecobius*. The description is followed by a brief discussion of the peculiar features of the species, its possible affinities, and the probable origin of the marsupials, based on the known fossil remains.

GILMORE, CHARLES WHITNEY. Osteology of the armored Dinosauria in the United States National Museum, with special reference to the genus *Stegosaurus*.

Bull. U. S. Nat. Mus.,
No. 89, Dec. 31,
1914, pp. 1-xi, 1-
148, pls. 1-37, figs.
1-78.

In this work a detailed account of the complete skeletal anatomy of *Stegosaurus* is

GILMORE, CHARLES WHITNEY—Contd.

given, the descriptive part being preceded by a brief account of the discovery, plan of work, and fauna of the quarries from which the specimens were obtained.

The genus *Stegosaurus* is reviewed and redefined, and the following species described: *Stegosaurus stenops*, *S. sulcatus*, and a new species, *S. longispinus*. The type specimen of *Hoplitosaurus marshi* is described and figured in detail for the first time. The paper concludes with a brief discussion of the various life restorations of *Stegosaurus*. The article is based almost entirely upon specimens in the U. S. National Museum.

— On the genus *Trachodon*.

Science (n. s.), 41,
No. 1061, Apr. 30,
1915, pp. 658-660.

The present use of the generic term *Trachodon* is discussed, the conclusion being reached that in its application *Trachodon* should be restricted to one of the forms from the Judith River formation; also that *Claosaurus annectens* Marsh should be regarded as a synonym of *Thespesius occidentalis* Leidy.

HAY, OLIVER P. The Pleistocene mammals of Iowa.

Iowa Geol. Surv., 23,
1914, pp. 1-662, pls.
1-75, figs. 1-142.

The various stages of the Pleistocene epoch are described. Iowa is apparently the only State in which has been demonstrated the presence of all four or five of the glacial stages. A section of the paper is devoted to a discussion of the character and distribution of the loess. The greater part of the report is made up of descriptions of the vertebrates, altogether mammals, which have been reported from the Pleistocene of the State. Of these mammals about 40 species are known. Many of the specimens described and figured are the property of the U. S. National Museum.

This paper accompanies the Annual Report of the State Geologist for 1912.

HAY, OLIVER P. Contributions to the knowledge of the mammals of the Pleistocene of North America.

Proc. U. S. Nat. Mus.,
48, No. 2086, Apr.
8, 1915, pp. 515-
575, pls. 30-37, figs.
1-5.

Describes a new species of bison, *Bison sylvestris*, from Ohio; a new species of musk-ox, *Bootherium nivicolens*, from Alaska; *B. sargenti* Gidley, from Michigan; a new species of horse, *Equus hatcheri*, from Nebraska; and a new species of horse, *E. francisci*, from Texas. Much of the paper is occupied by measurements made on the skulls of various species of equids, having in view the determination of the extent of variations in the wild species. Application is made of the results to determine the origin of the supposed composite species, *Equus caballus*.

SCHUCHERT, CHARLES. Revision of Paleozoic Stelleroida with special reference to North American Asteroidea.

Bull. U. S. Nat. Mus.,
No. 88, Mar. 20,
1915, pp. 1-311, pls.
1-38, figs. 1-41.

This monograph contains an exhaustive study of all known Paleozoic Asteroidea and Auluroidea, and a shorter presentation of the Ophiuroidea. The first 51 pages are devoted to a discussion of the terminology, development and evolution of Paleozoic Stelleroida, the remainder dealing with the detailed descriptions of genera and species. A complete bibliography is included. Based largely upon the collections in the U. S. National Museum, particularly the Harris and Ulrich collections.

SHUFELDT, R. W. Fossil birds in the Marsh collection of Yale University.

*Trans. Connecticut
Acad. Arts and Sci.*,
19, Feb., 1915, pp.
1-109, pls. 1-15.

Revised determinations are given of the species and genera described by the late Prof. O. C. Marsh, and the following

SHUFELDT, R. W.—Continued.

new species are proposed: *Telmatornis rea*, *Botauroides parvus*, *Eoceornis ardetta*, *Falco falconella*, *Grus marshi*, *Colymbus oligoceanus*, *Larus pristinus*, *Limicolavis pluvianella*, *Phalacrocorax marinavis*, *P. mediterraneus*, *Phasianus americanus*, *P. mioceanus*, *Sula atlantica*, *Meleagris richmondi*, *Tympanuchus lulli*, *Colinus catoni*, *Gavia pusilla*, and *Phasianus alphilda*. *Botauroides*, *Eoceornis*, *Minerva* and *Limicolavis* are new genera.

— New light on the great toothed divers of America.

Sci. Amer. Suppl., 79,
No. 2088, Jan. 23,
1915, pp. 52, 53,
figs. 1-5.

An account of the toothed birds of the Cretaceous beds of Kansas, prompted by the discovery of a fossil vertebra of a bird in the Clagett formation (Judith River) of Montana. The specimen referred to is in the U. S. National Museum, and will be figured later in *The Auk*.

WALCOTT, CHARLES D. Cambrian geology and paleontology, III. No. 2.—Pre-Cambrian Algonkian algal flora.

*Smithsonian Misc.
Colls.*, 64, No. 2,
July 22, 1914, pp.
77-156, pls. 4-23.

A preliminary paper on a fossil algal flora from the Algonkian formations of the Cordilleran area of western America. Algonkian algal flora is correlated with modern blue-green algae. An outline of Algonkian geologic continental conditions and sedimentation, and a biologic discussion of the algal flora and the traces of contemporaneous aquatic fauna. Suggests the algae as the explanation of immense reefs or banks of Algonkian limestone, and bacteria as the agent in their formation. Describes 8 new genera of Algonkian algae, with 12 new species described and illustrated, and other descriptions and illustrations of modern algal flora.

WALCOTT, CHARLES D. The Cambrian and its problems in the Cordilleran region.

Problems of American Geology, Yale University Press, New Haven, 1915, pp. 162-283, pls. 1, 2, figs. 1-8.

Based on a lecture delivered by Dr. Walcott at Yale University in 1913. Reviews the stratigraphic and faunal conditions of western North America preceding and during Cambrian time, discusses source of Cambrian Cordilleran faunas, gives

WALCOTT, CHARLES D.—Continued.

comparative lists of faunas of the three Cambrian periods, and suggests ten problems not yet wholly solved.

Discovery of Algonkian bacteria.

Proc. Nat. Acad. Sci., 1, Apr., 1915, pp. 256-257, figs. 1-3.

Records announcement of discovery of pre-Paleozoic bacteria in connection with algal deposits in Newland limestone. Compares by illustration ancient and modern forms of bacteria.

EXPLORATIONS AND FIELD WORK.

BIGELOW, HENRY B. Oceanography and plankton of Massachusetts Bay and adjacent waters, November, 1912-May, 1913.

Bull. Mus. Comp. Zool., 58, No. 10, Nov., 1914, pp. 385-419, 1 pl.

Describes the results of physical observations of the waters of Massachusetts Bay, with a brief reference to the plankton collected. This work was carried on with the steamer "Blue Wing" of the Bureau of Fisheries and in cooperation with that bureau.

SCHMITT, WALDO L., E. C. JOHNSTON, E. P. RANKIN and EDWARD DRISCOLL. Survey of the fishing grounds on the coasts of Washington and Oregon in 1914.

Report, U. S. Commissioner of Fisheries, 1914, pp. 1-30, 1 pl., 2 maps.

Accounts of explorations mainly by the steamer "Albatross" of the Bureau of Fisheries in 1913 and 1914.

Explorations and field-work of the Smithsonian Institution in 1913.

Smithsonian Misc. Coll., 63, No. 8, Nov. 27, 1914, frontispiece, pp. 1-88, figs. 1-87.

This paper contains notes on the following expeditions, the most of which resulted in the acquisition of material for the

Explorations and field-work—Contd.

Museum collections: Geological explorations in the Canadian Rockies; Geologic history of the Appalachian Valley in Maryland; Collecting fossil echinoderms in Illinois; Further exploration of the Cumberland Pleistocene cave deposit; A fossil hunting expedition in Montana; Life zones in the Alps; Dr. Abbott's expedition in Dutch East Borneo and Cashmir; Marine invertebrates from the "Eastern Shore," Va.; Experiments with Cerions in the Florida Keys; Bird studies in Illinois; Fishes from the region of Quaternary Lake Lahontan; Cactuses and desert plants from the West Indies and southwestern United States; Plants from southwestern United States; The flora of western North Carolina; Ancient mica mines of North Carolina; Anthropological exploration in Peru; Archeological explorations in western New Mexico; Antiquities of the West Indies; Among the East Cherokee Indians of North Carolina; Ceremonial dances of the Creeks in Oklahoma; Ceremonies and rituals of the Osage; A study of Sioux music; Strange rites of the Tewa Indians; Notes on the Alsea and Kalapuyan Indians; Field-work among the Catawba, Fox, Satalo, and Sauk Indians; Expedition of the Astrophysical Observatory.

Explorations and field-work of the Smithsonian Institution in 1914.

Smithsonian Misc. Colls., 65, No. 6,
June 30, 1915, pp.
1-95, pl. 1, figs.
1-89.

This paper contains notes on the following expeditions, the most of which resulted in the acquisition of material for the Museum collections: Geological explorations in the Rocky Mountains; Studies in coastal plain stratigraphy and paleontology; Explorations for fossil echinoderms in western New York; Fossil collecting at the Cumberland cave deposit; Hunting vertebrate fossils in Montana; Stratigraphic studies in central Tennessee; Geology of certain areas in eastern Pennsylvania; Geological studies in New York State; Expedition to Borneo and Celebes; Expeditions to the Far East; The "Tomas Barrera" Expedi-

Explorations and field-work—Contd.

tion in western Cuba; Experiments with Cerions in the Florida Keys; Bird studies in Illinois; Cactus investigations in Peru, Bolivia, and Chile; Botanical explorations in New Mexico and Texas; Collecting fossils on Chesapeake Bay; Anthropological investigations in Guatemala; Anthropological researches in Africa and Siberia; Preparation of exhibits illustrating the natural history of man; Prehistoric remains in New Mexico; Further study of the Cherokee sacred formulas; The sun and the ice people among the Tewa Indians of New Mexico; Work among the Iroquois; Osage songs and rituals; Preservation of Indian music; Ethnological researches among the Kalapuya Indians; Investigations among the Stockbridge, Brotherton, and Fox Indians; Studies of solar radiation.

EXPOSITION.

The exhibits of the Smithsonian Institution at the Panama-Pacific International Exposition, San Francisco, California, 1915, pp. 1-120, 5 illustrations, press of H. S. Crocker Co., San Francisco, Cal., 1915.

A catalogue of the exhibits of the Smithsonian Institution and its branches, preceded by a brief account of its organization and activities.

BIOGRAPHY.

DALL, WILLIAM HEALEY. Spencer Fullerton Baird, a biography, including selections from his correspondence with Audubon, Agassiz, Dana, and others.

J. B. Lippincott Co.,
Philadelphia and
London, Apr., 1915.

DALL, WILLIAM HEALEY—Continued.

pp. i-xvi, 1-462,
with 19 illustrations.

A biography of the first assistant secretary in charge of the U. S. National Museum and second Secretary of the Smithsonian Institution.



ANNUAL REPORT OF THE BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION

SHOWING THE OPERATIONS, EXPENDITURES
AND CONDITION OF THE INSTITUTION FOR
THE YEAR ENDING JUNE 30

1916

REPORT OF THE U. S. NATIONAL MUSEUM



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UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF THE SMITHSONIAN INSTITUTION,
Washington, D. C., February 10, 1917.

SIR: I have the honor to submit herewith a report upon the present condition of the United States National Museum and upon the work accomplished in its various departments during the fiscal year ending June 30, 1916.

Very respectfully,

RICHARD RATHBUN,
Assistant Secretary, in charge of the National Museum.

DR. CHARLES D. WALCOTT,
Secretary, Smithsonian Institution.

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REPORT ON THE PROGRESS AND CONDITION OF THE UNITED STATES NATIONAL MUSEUM FOR THE YEAR ENDING JUNE 30, 1916.

BY RICHARD RATHBUN,
*Assistant Secretary of the Smithsonian Institution,
in charge of the U. S. National Museum.*

INCEPTION AND HISTORY.

The Congress of the United States in the act of August 10, 1846, founding the Smithsonian Institution recognized that an opportunity was afforded, in carrying out the large-minded design of Smithson, to provide for the custody of the museum of the Nation. To this new establishment was therefore intrusted the care of the national collections, a course that time has fully justified.

In the beginning the cost of maintaining the museum side of the Institution's work was wholly paid from the Smithsonian income; then for a time the Government bore a share, and during the past 40 years Congress has voted the entire funds for the expenses of the museum, thus furthering one of the primary means "for the increase and diffusion of knowledge among men" without encroaching upon the resources of the Institution.

The museum idea was inherent in the establishment of the Smithsonian Institution, which in its turn was based upon a 10 years' discussion in Congress and the advice of the most distinguished scientific men, educators, and intellectual leaders of the Nation of 70 years ago. It is interesting to note how broad and comprehensive were the views which actuated our lawmakers in determining the scope of the Museum, a fact especially remarkable when it is recalled that at that date no museum of considerable size existed in the United States, and the museums of England and of the continent of Europe were still to a large extent without a developed plan, although containing many rich collections.

The Congress which passed the act of foundation enumerated as within the scope of the Museum "all objects of art and of foreign and curious research and all objects of natural history, plants, and geo-

logical and mineralogical specimens belonging to the United States," thus stamping the Museum at the very outset as one of the widest range and at the same time as the Museum of the United States. It was also appreciated that additions would be necessary to the collections then in existence, and provision was made for their increase by the exchange of duplicate specimens, by donations, and by other means.

If the wisdom of Congress in so fully providing for a museum in the Smithsonian law challenges attention, the interpretation put upon this law by the Board of Regents within less than six months from the passage of the act can not but command admiration. In the early part of September, 1846, the Regents took steps toward formulating a plan of operations. The report of the committee appointed for this purpose, submitted in December and January following, shows a thorough consideration of the subject in both the spirit and letter of the law. It would seem not out of place to cite here the first pronouncement of the board with reference to the character of the Museum:

"In obedience to the requirements of the charter,¹ which leaves little discretion in regard to the extent of accommodations to be provided, your committee recommend that there be included in the building a museum of liberal size, fitted up to receive the collections destined for the Institution. * * *

"As important as the cabinets of natural history by the charter required to be included in the Museum, your committee regard its ethnological portion, including all collections that may supply items in the physical history of our species, and illustrate the manners, customs, religions, and progressive advance of the various nations of the world; as, for example, collections of skulls, skeletons, portraits, dresses, implements, weapons, idols, antiquities, of the various races of man. * * * In this connexion your committee recommend the passage of resolutions asking the cooperation of certain public functionaries and of the public generally in furtherance of the above objects.

"Your committee are further of opinion that in the Museum, if the funds of the Institution permit, might judiciously be included various series of models illustrating the progress of some of the most useful inventions; such, for example, as the steam engine from its earliest and rudest form to its present most improved state; but this they propose only so far as it may not encroach on ground already covered by the numerous models in the Patent Office.

"Specimens of staple materials, of their gradual manufacture, and of the finished product of manufactures and the arts may also, your

¹ Since the Institution was not chartered in a legal sense, but established by Congress, the use of the word "charter" in this connection was not correct.

committee think, be usefully introduced. This would supply opportunity to examine samples of the best manufactured articles our country affords, and to judge her gradual progress in arts and manufactures. * * *

"The gallery of art, your committee think, should include both paintings and sculpture, as well as engravings and architectural designs; and it is desirable to have in connexion with it one or more studios in which young artists might copy without interruption, being admitted under such regulations as the board may prescribe. Your committee also think that, as the collection of paintings and sculpture will probably accumulate slowly, the room destined for a gallery of art might properly and usefully meanwhile be occupied during the sessions of Congress as an exhibition room for the works of artists generally; and the extent and general usefulness of such an exhibit might probably be increased if an arrangement could be effected with the Academy of Design, the Arts Union, the Artists' Fund Society, and other associations of similar character, so as to concentrate at the metropolis for a certain portion of each winter the best results of talent in the fine arts."

The important points in the foregoing report are (1) that it was the opinion of the Regents that a museum was requisite under the law, Congress having left no discretion in the matter; (2) that ethnology and anthropology, though not specially named, were yet as important subjects as natural history; (3) that the history of the progress of useful inventions and the collection of the raw materials and products of the manufactures and arts should also be provided for; (4) for the gallery of art the committee had models in existence, and they proposed, pending the gathering of art collections, which would of necessity be slow, to provide for loan exhibitions by cooperating with art academies and societies.

In the resolutions which were adopted upon the presentation of the report, a museum was mentioned as "one of the principal modes of executing the act and trust."¹ The work was to go forward as the funds permitted, and, as is well known, the maintenance of the Museum and the library was long ago assumed by Congress, the Institution taking upon itself only so much of the necessary responsibility for the administration of these and subsequent additions to its

¹ *Resolved*, That it is the intention of the act of Congress establishing the Institution, and in accordance with the design of Mr. Smithson, as expressed in his will, that one of the principal modes of executing the act and the trust is the accumulation of collections of specimens and objects of natural history and of elegant art, and the gradual formation of a library of valuable works pertaining to all departments of human knowledge, to the end that a copious storehouse of materials of science, literature, and art may be provided which shall excite and diffuse the love of learning among men, and shall assist the original investigations and efforts of those who may devote themselves to the pursuit of any branch of knowledge.

activities as would weld them into a compact whole, which together form a unique and notable agency for the increase and diffusion of knowledge, for the direction of research, for cooperation with departments of the Government and with universities and scientific societies in America, and likewise afford a definite correspondent to all scientific institutions and men abroad who seek interchange of views or knowledge with men of science in the United States.

Since that early day the only material change in the scope of the Government Museum has been the addition of a department of American history, intended to illustrate by an appropriate assemblage of objects the lives of distinguished personages, important events, and the domestic life of the country from the colonial period to the present time.

The development of the Museum has been greatest in those subjects which the conditions of the past three-quarters of a century have made most fruitful—the natural history, geology, ethnology, and archeology of the United States, supplemented by many collections from other countries. The opportunities for acquisition in these directions have been mainly brought about through the activities of the scientific and economic surveys of the Government, many of which are the direct outgrowths of earlier explorations, stimulated or directed by the Smithsonian Institution. The Centennial Exhibition of 1876 afforded the first opportunity for establishing a department of the industrial arts, of which the fullest advantage has been taken, but the department or gallery of the fine arts made little progress, though not from lack of desire or appreciation, until ten years ago, when circumstances led to its definite recognition.

While it is the primary duty of a museum to preserve the objects confided to its care, as it is that of a library to preserve its books and manuscripts, yet the importance of public collections rests not upon the mere basis of custodianship nor upon the number of specimens assembled and their money value, but upon the use to which they are put. Judged by this standard, the National Museum may claim to have reached a high state of efficiency. From an educational point of view it is of great value to those persons who are so fortunate as to reside in Washington or who are able to visit the Nation's capital. In its well-designed cases, in which every detail of structure, appointment, and color is considered, a selection of representative objects is placed on view to the public, all being carefully labeled individually and in groups. The child as well as the adult has been provided for and the kindergarten pupil and the high-school scholar can be seen here supplementing their class-room games or studies. Under authority from Congress the small colleges and higher grades of schools and academies throughout the land, especially in places where museums do not exist, are also being aided

in their educational work by sets of duplicate specimens, selected and labeled to meet the needs of both teachers and pupils.

Nor has the elementary or even the higher education been by any means the sole gainer from the work of the Museum. To advance knowledge, to gradually extend the boundaries of learning, has been one of the great tasks to which the Museum, in consonance with the spirit of the Institution, has set itself from the first. Its staff, though chiefly engaged in the duties incident to the care, classification, and labeling of collections in order that they may be accessible to the public and to students, has yet in these operations made important discoveries in every department of the Museum's activities, which have in turn been communicated to other scholars through its numerous publications. But the collections have not been held for the study of the staff nor for the scientific advancement of those belonging to the establishment. Most freely have they been put at the disposal of investigators connected with other institutions, without whose help the record of scientific progress based upon the material in the Museum would have been greatly curtailed. When it is possible to so arrange, the investigator comes to Washington; otherwise such collections as he needs are sent to him, whether he resides in this country or abroad. In this manner practically every prominent specialist throughout the world interested in the subjects here well represented has had some use of the collections and thereby the National Museum has come to be recognized as a conspicuous factor in the advancement of knowledge wherever civilization has a foothold.

OPERATIONS OF THE YEAR.

APPROPRIATIONS.

The maintenance and operations of the National Museum for the year covered by this report, namely, from July 1, 1915, to June 30, 1916, inclusive, were provided for by the following items of appropriation in the sundry civil act approved March 3, 1915:

Preservation of collections.....	\$300,000
Furniture and fixtures.....	25,000
Heating and lighting.....	46,000
Building repairs.....	15,000
Purchase of books.....	2,000
Postage.....	500
Printing and binding.....	37,500
Total.....	<hr/> 426,000

BUILDINGS AND EQUIPMENT.

Over one half the entire appropriation for repairs was required to be expended in connection with the roofs on the new building, the defective condition of which has been discussed in previous reports. The work included the refastening of about 12,500 lineal feet of copper covering, the replacing of 25 lineal feet with new copper, and the remodeling of the west skylight and of that part of the north skylight not finished the previous year. Serious leaks in the upper story of the building were traced to and necessitated the repointing of joints in the three courses of stone adjoining the roofs in the west court, and also in the outer stonework of the west range above the main cornice. The exterior metal framework and sills of all first and second story windows in the courts were painted, as were the walls of the auditorium which had become defaced through the seepage of moisture. For the protection of floors showing wear, a part of the wood surfaces in the corridors of the third story was covered with a preparation of cork, while all of the cement pavement in the corridors in the ground story was treated with cement paint.

The principal exterior repairs to the older Museum building consisted in replacing the slate on one of the corner pavilions, in repairing the slate roofs on the towers at the middle of each façade, and in repairing and painting all woodwork above the cornice. The repair

work in the interior of this building was mainly restricted to extending certain fireproof protecting walls, repairing, pointing up and painting defaced walls, and replacing worn out floors. The taxidermist shop, which has for several years been temporarily occupying about one-half the area of the south-east range, was removed to its former quarters in the south shed, and the space so released was assigned to the division of mechanical technology for exhibition collections.

The changes which have been in progress, under special appropriations by Congress, to adapt the great hall in the Smithsonian building to the present needs of the Institution and the Museum were completed in the fall of the year. The final work consisted in finishing the western bookstack, in painting the walls, piers and ceilings, and in the installation of an electric lighting system. The last, specially designed for the hall, comprehends a 24-inch inverted holophane bowl, containing eight 60-watt lamps, placed below a hollow or domed recess in the center of each of the 33 ceiling panels and at a distance of only about $4\frac{1}{2}$ inches from the surface. The bowls have a slight brownish tint, deepening somewhat in shade in the thicker parts of the ornamental design, and harmonizing with the color of the room. The lighting is therefore entirely from the ceiling, pleasing in effect and ample for all purposes. Taking advantage of the closing of the large hall, the children's room, which adjoins it in the south tower, the creation of Secretary Langley, was also repainted and refurbished and its collections were rearranged, greatly improving its appearance.

The power plant was closed down as usual during about two months of the summer, or from July 3 to September 7, to permit of the overhauling of the boilers and machinery without interruption, the electric current required for lighting and other purposes being obtained from a local company at the low rate of $2\frac{1}{2}$ cents per kilowatt hour. The employees in this department were also given the greater part of their leave during this period. No repairs of special importance were called for, but the plant was placed in such excellent condition that its operation throughout the year was attended with no serious troubles of any kind. The total amount of coal consumed was 2,833 tons, and steam was used for heating purposes from October 1 to May 20.

The amount of electric current generated was greater than in previous years, as more lights were used and it had been found necessary to increase the size of the lamps in most of the exhibition halls in the new building. While this increase in load caused an increase in the total cost of the electric current for the year, the cost per unit was reduced below any prior record, having been at the rate of 2.221 cents per kilowatt hour. A beginning was made toward replacing the obsolete arc lamps in the older building with an incan-

descent system similar to that in the new building, the lamp containers to consist of suspended holophane veluria bowls. The change was effected in the hall devoted to historic costumes, and will be extended as rapidly as possible. Some new methods of direct lighting of individual exhibits were also introduced.

Ice, to the extent of 325 tons, was manufactured at the rate of \$2.75 a ton, this increase in cost as compared with the previous year arising from the necessity of replacing the motor belonging to the plant with one of an improved pattern.

Furniture was acquired during the year as follows: Twenty-two exhibition cases, 85 storage cases and pieces of laboratory furniture, 119 pieces of office and miscellaneous furniture, 862 wooden unit specimen drawers, 503 insect drawers, and 358 specimen drawers of special kinds. Eighteen pieces of old furniture were condemned. At the close of the year the following were on hand, namely, 3,500 exhibition cases, 7,101 storage cases and pieces of laboratory furniture, 3,532 pieces of office and miscellaneous furniture, 43,066 wooden unit specimen drawers, 4,712 metal unit specimen drawers, 9,422 insect drawers, and 18,260 miscellaneous specimen drawers and boxes of various kinds. The exhibition cases were mainly constructed in the Museum shops, while the storage and other furniture was mostly obtained from contractors. Other work performed by Museum employees consisted in the remodeling and repair of old furniture, and the making of fittings and accessories for both exhibition and storage cases, and for the exhibition halls in general.

Plans and specifications for the construction of various patterns of the furniture designed for the National Museum were supplied, on request, to 16 museums and other establishments elsewhere.

COLLECTIONS.

The total number of specimens acquired during the year was approximately 243,733. Received in 1,525 separate accessions, they were classified and assigned as follows: Department of anthropology, 29,493; zoology, 120,303; botany, 40,631; geology and mineralogy, 1,700; paleontology, 48,403; textiles, woods, and other animal and vegetable products, 2,304; mineral technology, 280; and the National Gallery of Art, 619. As loans for exhibition, 1,960 articles were also obtained, mainly for the Gallery of Art and the divisions of history and ethnology.

Material for examination and report, consisting chiefly of rocks, ores, fossils, and recent animals and plants, was received to the extent of 1,036 lots.

DEPARTMENT OF ANTHROPOLOGY.

Ethnology.—One of the most important acquisitions by the division of ethnology was a series of costumes, weapons and utensils—excellent illustrations of the arts and industries of recently discovered tribes in the interior of British Guiana, collected by Mr. John Ogilvie, which, after being shown at the Panama-Pacific International Exposition, was deposited in the Museum by the Government Board of Exhibits. An addition by Dr. W. L. Abbott to his generous contributions from that region comprised many articles, including blowguns and costumes, made and used by the hill tribes of Celebes, and a number of baskets and sleeping mats from Borneo, procured by Mr. H. C. Raven. From Dr. C. Hart Merriam, of Washington, was received a prepared human head from the upper Tapajos River, Brazil, a trophy of which few examples have found their way into public collections.

Among the other gifts were baskets, ornaments, etc., representing various North American Indian tribes, brass utensils and weapons of Philippine and oriental manufacture, and many other objects of value, from Mrs. Caroline E. Bates, of Washington; weapons, musical instruments and baskets of several Philippine tribes, from Mr. E. H. Hammond, of Albuquerque, N. Mex.; a suit of Philippine brass armor, a number of weapons and a carved wooden figure representing an Igorot tutelary deity, from Maj. Edgar Russel, U. S. Army, and Mrs. Russel; a polo stick and a number of Filipino weapons, from Maj. W. T. Johnston, U. S. Army; a collection of Moro costumes and baskets, from Capt. J. R. Harris, U. S. Army; and art objects and ethnologica from many parts of the world, from Miss Louise Salter Codwise, of Kingston, N. Y.

The Bureau of American Ethnology transferred a sacred Hawk bundle of the Osage Indians which had been secured by Mr. Francis La Flesche, a set of Osage ear perforators, ceremonial implements of great rarity and an Osage war shield. A number of objects chiefly associated with the subject of heat and illumination, including lamps, candlesticks, urns, censers and fire tongs, were obtained in exchange from Mr. Anton Heitmuller, of Washington; and a collection of costumes and implements from the Greenland Eskimo and the Blackfeet Indians was purchased.

Mrs. Allan McLane and Miss Frances Densmore, both of Washington, made additions to their already important collections on deposit, the former of archaic Chinese coins, art objects, etc., the latter of ethnological material procured during her recent researches among the Chippewa and the Mandan and Hidatsa Indians. Comprised in other loans were miscellaneous costumes, ornaments and curios representing the peoples of many countries, from Mrs. R. G. Hoes, of Washington; examples of oriental jewelry, from Mrs. J. E.

Zimmerman, of New York; and a rare example of a sun dance robe of the Blackfeet Indians, from Mr. Ira C. Wetherill, of Erica, Va.

The curator of the division, Dr. Walter Hough, took part in assembling the special exhibit for the International Congress of Americanists, and spent the month of February at San Diego in installing for the Panama-California Exposition the exhibits of ethnology sent there from San Francisco. In the middle of June he was detailed to field work in New Mexico. His investigations relative to heating and illumination were continued, as were also those on the Hopi Pueblo Indian collection, and several short papers bearing on phases of these subjects were prepared.

American archeology.—While under detail to the Bureau of American Ethnology, Mr. Neil M. Judd, aid in ethnology, made an extensive collection of archeological material, including artifacts of many varieties, from mounds and ruin sites in Utah, which is of particular value in assisting to determine the distribution of Pueblo culture toward the north. This collection was transferred by the Bureau, as was also a stone collar or yoke found in San German, P. R. Mr. Frank Springer, an associate of the Museum, presented a large number of specimens from Decatur County, Ind.; and Dr. Julio C. Tello, of Lima, several examples of quipus, woven fabrics and pottery from Peru. The following were purchased: Three monolithic stone hatchets, obtained from a Mosquito Indian chief in Nicaragua; a large chipped flint blade classed as an Indian hoe, from Clay County, Ark.; and an ancient Indian pipe of cavern alabaster carved to represent an owl, found with a skeleton in a cave in Harrison County, W. Va. A gold ornament representing a bird, from Colombia, was deposited by Mr. Guido Schroedl, of Baltimore, Md.

Mr. William H. Holmes, head curator of the department of anthropology, continued with his general work on American antiquities, and Mr. Neil M. Judd began the preparation of a report on his researches in Utah.

Old World archeology.—To Miss Louise Salter Codwise, of Kingston, N. Y., this division was greatly indebted for the gift of a collection of oriental antiquities, consisting mainly of Egyptian scarabs, necklaces and figurines, and Palestinian amulets. Casts of four canopic vases, taken from the originals in limestone, found at Thebes, Egypt, in 1895, and now preserved in the Archaeological Museum of the University of Pennsylvania, were received in exchange from that museum. From the University of Dublin, also as an exchange, was obtained a collection of prehistoric stone implements from Great Britain, including some rare specimens, and contributing toward rounding out the section of the Museum exhibit to which they relate. A large number of examples of antique iridescent glassware from

Italy and Syria, comprising perfume bottles, vases, dishes, bracelets and beads were lent for exhibition by Miss Isobel H. Lenman, of Washington.

The assistant curator in charge of the division, Dr. I. M. Casanowicz, made studies of the magical lore and practices among the Jews and Koreans, and papers on these subjects were prepared and submitted for publication.

Physical anthropology.—Mr. Clarence B. Moore, of Philadelphia, contributed a large number of skeletons and skulls in very complete condition and with careful notes, which he had obtained at "The Indian Knoll" on the Green River, Ohio County, Ky. Mr. George G. Heye, of New York, presented a similar but smaller collection resulting from his exploration of old burial sites in Georgia and Tennessee. Indian skulls and jaws from Michigan, including several good types of Algonquin crania, were donated by Mr. Byron E. Dodge, of Davison, Mich.; and several skulls and other bones from Northampton County, Pa., a region thus far but poorly represented in anthropological collections, were received as a gift from Mr. Walter P. Lewis, of Phillipsburg, N. J. Mr. August Busck, of the Bureau of Entomology, while conducting investigations in Hawaii, obtained for the Museum an excellent series of skulls and numerous other bones, procured in old burial caves and belonging to the period before the advent of the whites. Valuable series of brains, embryos and other anatomical material, important additions to the collection, were contributed by Dr. J. Holmes Smith, of the University of Maryland, and Prof. Robert Bennett Bean, of Tulane University, New Orleans, La.

The researches by the curator of the division, Dr. Aleš Hrdlička, related mainly to the skeletal remains of the Indians of the eastern part of this country. These were completed as far as the available collections permitted, and the results were published under the title "Physical anthropology of the Lenape or Delawares, and of the eastern Indians in general," by the Bureau of American Ethnology. Dr. Hrdlička also continued his investigations on the physical characteristics of the old White Americans, and similar studies on the principal classes of immigrants were conducted under his direction at Ellis Island, N. Y.

Mechanical technology.—A set of telephone instruments and of loading coils together with examples of line wire and glass insulators used at the opening of the first telephone line between New York and San Francisco, January 25, 1915, photographs of the groups of persons present on that occasion, and also a duplicate of the first instrument through which speech was transmitted electrically in Boston, Mass., in 1875, were received as a gift from the American Telephone and Telegraph Co. Appropriately supplementing this was a loan from

Dr. Alexander Graham Bell of a number of interesting documents indicative of honors which have been conferred upon him, including diplomas, certificates of award, and announcements of membership in various scientific societies. Ten current-meters used by the Geological Survey for measuring the velocity and quantity of the flow of water in streams, showing the development of the apparatus for this purpose between 1870 and 1915, were deposited by that Bureau.

To Mrs. Caroline E. Bates, of Washington, the division was indebted for the donation of a collection of much historical value, including military guns of European and American manufacture, some of which had been altered from flint to percussion cap locks, single and double-barrel pistols and revolvers, one Lefauchaux 12-shot revolver of .35 caliber; several Toledo swords, one officer's sword made by the Ames Manufacturing Co., of Cabotville, Mass., in 1849; one gun made by natives of the Philippine Islands of 1½-inch iron pipe wound with wire and fitted with a rough wood stock; two very fine bronze swivel guns, evidently of European make, covered with rich decorations cast in the metal, one 46 inches long and 1½-inch bore, the other 48 inches long and 1½-inch bore; one sextant made by Thomas Ripley, London, and one brass sundial, 14 inches square with 5-inch gnomon. Mrs. Bates also lent a crossbow of superior workmanship. Mr. H. I. Houston, of Washington, presented a finely finished double-barrel shotgun, 12 bore, of the type brought into use about 1845, made by Parker Brothers, of Meriden, Conn.; and Mr. Richard Rathbun, a pair of flint-lock, brass-barrel, bell-muzzle Tower pistols.

A contribution from Capt. Charles W. Maynard, of Detroit, Mich., comprised many relics of the Civil War, among which were an infantry officer's sword, a powder-and-ball 5-chambered Colt's revolver, 5½-inch barrel and .36 caliber; a pair each of a first lieutenant's service and dress shoulder straps; a set of private soldier's eating utensils, knife, fork and spoons; several military passes and "fall out" tickets; a section of a tree with embedded rifle ball, and shells, bullets, cartridges, etc., from several important battle fields.

An interesting loan collection from Mrs. R. G. Hoes, of Washington, contained several powder horns covered with crude engravings of military and naval emblems, animals, mottoes, etc.; a European hunter's horn, two flint-lock brass-barrel pistols made by Sharpe of London, a powder-testing pistol and a number of oriental daggers; several United States army officers' swords of American, Spanish and German make, one of which was carried by Lieut. S. L. Gouverneur of the 4th U. S. Cavalry; a cartridge box of the Revolutionary War and a barrel-shaped canteen made with wooden staves and iron hoops.

Mr. George C. Maynard, curator of the division, continued his studies on the history of the materials comprised in the several branches of the collection under his charge.

Musical instruments.—Mr. Hugo Worch, of Washington, added three antique pianos to his most munificent donation of the previous year. They were all made in Philadelphia, one by Alpheus Babcock for John Klemm, another marked Thomas and John Loud as from London, the third, a John Sellers' instrument the date of which can be placed as early as 1775-78, showing construction antedating any known American make. Mr. Worch also deposited temporarily four other pianos, two made by Charles Albrecht of Philadelphia, another by Loud Brothers of the same place, and the fourth by Muzio Clementi of London. A dulcimer 75 or 80 years old was lent by Mr. S. A. Thomas, of Washington.

Ceramics.—To the exhibition series in the ceramic gallery were added a collection of porcelain and glassware presented by Miss Janet Martin, of Worcester, Mass., and examples of American pottery from the following makers: The Newcomb Pottery, New Orleans, La.; Paul Revere Pottery, Boston, Mass.; Adelaide Alsop Robineau, New York; Bertha Heise, South Pasadena, Cal.; The Tile Shop, Berkeley, Cal.; and the Arequipa Pottery Co., Fairfax, Cal. A number of pieces of Chinese porcelain, bronze and brass were received as a loan from Miss Eliza R. Scidmore.

Graphic arts.—An accession of much interest consisted of experimental apparatus and pictures illustrating progress and the several steps in the electrical transmission of photographs from one place to another, and the development of the engraving machine called the akrograph, presented by Mr. N. S. Amstutz, of Valparaiso, Ind. Other gifts included a Wells' printing press from the American Type Founders Co., of Jersey City, N. J.; examples of the art of overlay in printing, from Mr. Reuel Beach, of the University Press, Cambridge, Mass.; and samples of poster stamps and lithographs, from Mr. Carl Butman, of the Smithsonian Institution. A number of 14th and 15th century manuscripts and several books belonging to the estate of the late W. S. Sutton were purchased. Among the loans were a series of Chinese paintings on pith and paper, from Mrs. Charles D. Walcott; and an old Papal Bull issued by Pope Pius III in 1538, from Mr. W. E. Safford, of Washington.

The more noteworthy gifts to the section of photography were a series of photographic prints of astronomical subjects, made at and presented by the Yerkes Observatory, Williams Bay, Wis.; a collection of daguerreotypes, ambrotypes, and tintypes, from Mr. S. C. Hoover, of Takoma Park, D. C.; the original model of the McCurdy developing machine, patented August 26, 1902, from Mr. Horace A. Dodge, of Washington; and a sepia print of a painting on carved wood by Rosselimo, from Dr. Charles D. Walcott.

History.—The historical collections were especially favored during last year, and it is noted with satisfaction that in the aggregate the

permanent acquisitions were fully as extensive and valuable as the loans.

Through the courtesy of Mr. Walter G. Peter, of Georgetown, D. C., the already important exhibition of Washington memorials was greatly enriched by the deposit of many objects of artistic and domestic interest once the property of Gen. and Mrs. Washington at Mount Vernon. Among these may be mentioned a china portrait plaque of Washington designed by Richard Champion, a water-color portrait of him by William Thornton, a set of ivory chessmen of which he made use, and two gold locket containing locks of his hair; a gold watch which belonged to Mrs. Washington, the cover engraved with the Washington coat-of-arms; letters written to her on the occasion of Washington's death by George Washington Lafayette, Alexander Hamilton, Henry Knox and other persons of note, and a scrap book of original documents relating to the settlement of her estate; a ladder-back chair from Mount Vernon, and a plan of the grounds at Mount Vernon made by Samuel Vaughan in 1787; a child's French dressing table of exquisite workmanship presented by Lafayette to the granddaughter of Mrs. Washington, Martha Custis, who became Mrs. Thomas Peter; a china bowl decorated with the insignia of the Society of the Cincinnati, and a number of fine examples of 18th century china and glassware. This loan comprises part of a large collection of Washington relics which belonged to the late Mrs. Britannia W. Peter Kennon, of Georgetown, D. C., who was the daughter of Mrs. Thomas Peter and the grandmother of Mr. Walter G. Peter.

To Mr. Edward Trenchard, of Washington, the Museum was indebted for the loan of a number of important relics of Capt. Edward Trenchard, U. S. Navy (1784-1824), and Rear Admiral Stephen Decatur Trenchard, U. S. Navy (1818-1883). Pertaining to the former were a midshipman's dirk with ivory handle and gold-mounted scabbard awarded him by act of Congress for his participation in the attack on Tripoli in 1804; a sword and scabbard presented under an act of Congress in recognition of his services during the War of 1812; his commission as lieutenant, dated February 18, 1807, signed by President Jefferson, and his commission as captain, dated March 5, 1817, signed by President Monroe; his manuscript journal when in command of the U. S. S. *Cyane*, 1820-21, during a cruise to the west coast of Africa for the suppression of the slave trade; a water-color chart of Praya Bay, Cape Verde Islands, made by him in 1821; and a gold watch fob set with topaz seal. Belonging to Stephen Decatur Trenchard were his commission as commander, dated February 21, 1863, signed by President Lincoln, and that as rear admiral, dated December 15, 1875, signed by President Grant; his manuscript journal when flag lieutenant to Flag Officer Josiah

Tattnall in command of the United States fleet in Asiatic waters, 1857-60; and a gold chronometer presented by the underwriters of the British barque *Adieu* in recognition of his services in saving that vessel from disaster in 1856.

It is extremely gratifying to announce the gift to the Museum of the large and valuable collection of memorials of Gen. William Tecumseh Sherman, U. S. Army, which has for some years been on exhibition as a loan, together with a few additions. For this generous donation the public is under obligations to Mr. P. Tecumseh Sherman, of New York, son of Gen. Sherman. Briefly summarized, this collection consists of Sherman's diploma as a graduate of the United States Military Academy at West Point in 1840; his commissions from 1840 to 1869, representing the various ranks he held from second lieutenant to general; the service sword and scabbard carried during the battle of Shiloh, April 6-8, 1862; a gold-mounted and jeweled sword and scabbard presented to him in recognition of his services during that engagement; four uniform coats, and parts of a number of other uniforms worn by him, including hats, epaulets, belts, sashes and shoulder straps, a gold watch and chain carried during the Civil War, and a number of miscellaneous articles.

Through the kind favor of members of his family, resident in Washington, the Museum was placed in permanent possession of an extensive series of objects constituting a significant reminder of the distinguished career of the late Maj. Gen. Henry Ware Lawton, U. S. Volunteers. Contributed by Mrs. Mary C. Lawton were a sword and scabbard presented to Gen. Lawton in 1865, when lieutenant colonel, by the officers and men of his regiment, the Thirtieth Indiana Volunteers, as a token of confidence and respect; a uniform belt, sash, and three service swords used during the Civil War; a pair of aiguillettes, a pair of shoulder knots and a chapeau worn in 1889 when lieutenant colonel and inspector general, United States Army; the flag of the Eighth United States Army Corps flown at his headquarters in the Philippines during the insurrection of 1899, a manuscript decree signed by Aguinaldo, two Filipino flags captured by Gen. Lawton, and a number of resolutions of regret upon his death, notably those adopted by the municipal authorities of Imus, Bacoar, Las Pinas, Paranaque, Santa Ana, San Felipe, Nery and San Pedro Macati, and the Common Council of the City of Boston. Presented by Mr. Manley Lawton were a medal of honor awarded to Gen. Lawton by Congress when lieutenant colonel and inspector general, United States Army, for distinguished gallantry in battle at Atlanta, Ga., August 3, 1864; an ivory memorandum pad used during the Civil War; and a gold watch and chain presented to him in 1886 by the cattlemen of central New Mexico in recognition of his services when captain in the Fourth United States Cavalry, in connection with the

capture of the Indian chief Geronimo. From Miss Catherine Lawton was received a glass punch set of fifteen pieces decorated with gold and floral designs, presented to Gen. Lawton in the Philippines in 1899.

Other noteworthy gifts were the following: From Mr. and Mrs. Ethan Allen Weaver, of Germantown, Pa., a wooden canteen, leather bullet pouch, two powder horns and a British revenue stamp of the period of the Revolution. From Mrs. Caroline E. Bates, of Washington, a number of relics, including a pair of leather saddle bags, leather cartridge case, blue canvas knapsack, and an oak cane, with ivory handle of interesting workmanship, all of the early part of the 19th century. From Miss E. Reynolds, of Washington, a uniform coat worn by Maj. Gen. John F. Reynolds, U. S. Volunteers, in 1841, when a cadet at the United States Military Academy at West Point, and a pair of epaulets worn by him in 1855, when a captain in the Third United States Artillery. From Miss F. M. Crosthwaite, of Washington, a uniform coat worn during the War with Mexico, 1846-48, by Lieut. Baldwin J. Crosswait, Third Ohio Infantry. From Mr. Nathan Perry Beers, a rocking-chair owned by Henry Clay, and a silk banner carried on the occasion of his funeral in 1852. From Mr. Mark Burckle Hatch, a silver tray, pitcher and four goblets, presented to Bvt. Maj. Gen. John Porter Hatch, U. S. Volunteers, by the citizens of Oswego, N. Y., in recognition of services during the War with Mexico, the Indian expeditions of 1857-59 and the Civil War; a sword presented for services during the Civil War, and a uniform coat worn when lieutenant during the War with Mexico. From Rear Admiral John C. Watson, U. S. Navy, the boat flag flown on the gig in which Commander Charles S. Boggs, U. S. Navy, left the gunboat *Varuna* commanded by him when that vessel was sunk below New Orleans, April 24, 1862, during the engagement between a Confederate flotilla and the United States fleet commanded by Flag Officer David G. Farragut. From Mrs. Bridget O'Farrell, of Washington, a maple armchair used by Gen. Robert E. Lee at Appomattox, Va., April 9, 1865, when writing the note accepting the terms proposed by Gen. Grant for the surrender of the Army of Northern Virginia, and a number of letters and other papers relating to the history of the chair. From Maj. John Bigelow, U. S. Army, a cha peau, coat, pair of trousers, knee breeches, two vests and a dress sword and scabbard, belonging to the official costume worn by John Bigelow at the court of Napoleon III, when American minister to France, 1865-66.

From the Misses Long, of Washington, whose generous contributions have so often been recorded in these reports, there were received as a loan a drawing-room table with pedestal of mahogany and top of marble, two drawing-room chairs, two brass candelabra and mis-

The Wilde Gold Medal of the Manchester, England, Literary and Philosophical Society awarded to Frank Wigglesworth Clarke, of the Geological Survey, on the occasion of the Dalton Centenary, 1903, was lent for exhibition by Prof. Clarke. The following were received as gifts, namely, a silver medal designed by Georges Lemaire in 1910, commemorating the Franco-Prussian War, 1870-71, from Mr. George Iles, of New York; 4 bronze replicas of the Anthony N. Brady Memorial Medal awarded annually by the American Museum of Safety to the American electric railway company which for the year of the award has done most to conserve the safety and health of the public and its employees, from the American Museum of Safety, through Dr. William H. Tolman, of New York, director; and a bronze replica of the medal commemorating the services of Samuel Putnam Avery to the fine arts and his gift of the Avery Library Building to Columbia University, from the Samuel Putnam Avery Medal Commission, through its chairman, George F. Kunz, of New York. The Smithsonian Institution placed on deposit a bronze medal issued by the Holland Society of New York commemorating the three hundredth anniversary of the Dutch settlement on Manhattan in 1613, and the two hundred and fiftieth anniversary of the founding of the Board of Aldermen, 1665; and two bronze medals of award, with diplomas, representing, respectively, a grand prize and a silver medal, conferred upon the Institution by the Jury of Awards of the Panama-Pacific International Exposition, San Francisco, 1915.

Twenty-five Egyptian silver coins struck during the first century B. C., were obtained in exchange from the Minnesota Academy of Sciences; while 53 modern coins of the United States, Great Britain, France, Spain and Mexico, and one United States token, were presented by Miss Harriet N. Langdon, of Cincinnati, Ohio; and 86 modern and 254 antique copper, brass and bronze Chinese coins were received as a gift from N. Gist Gee, of Soochow, China.

The collection of postage stamps, stamped envelopes and post cards was increased to the extent of 3,460 specimens, of which the Post Office Department deposited 1,565 examples of new foreign issues received from the International Bureau of the Universal Postal Union, and 269 specimens of new domestic issues. Of special interest among the latter were a series of the current United States issues perforated 10, and an imperforate sheet of 150 two cent stamps made from the new cylindrical plates for endwise coils recently installed in the Bureau of Engraving and Printing. The additional 1,626 specimens were obtained by gift, purchase and exchange to fill specific gaps in the collection.

By the death of Mr. David W. Cromwell, of New York, on September 11, 1915, the splendid collection of nearly 20,000 domestic and foreign stamps, which he placed on permanent deposit in 1908,

became the absolute property of the Museum. It is notably rich in fine examples of foreign issues of the 19th and 20th centuries, and its acquisition marks a considerable advance toward rounding out the Museum collection.

The arrangement of the smaller objects stored in trays on the history gallery in alphabetical order by donor and lender, in accordance with the plan outlined in the last report, was completed and greatly simplifies the task of locating particular specimens when desired. The larger objects provisionally kept in the basement of the Smithsonian building have also been appropriately classified and made readily accessible. Fair progress was reported in the preparation of a subject catalogue of the material in the division, and lists of all the objects which might be classed under single heads regardless of their origin were begun. Such a catalogue will prove of great importance and the classified lists of material may ultimately be made the basis of a published catalogue of the entire collection, for which many requests have been received. The catalogue of the Washington relics by the assistant curator, Mr. T. T. Belote, mentioned in previous reports, was completed and published.

Historical costumes.—Under the direction and with the constant attention of Mrs. Julian James and Mrs. R. G. Hoes, of Washington, the collection of historical costumes was greatly enlarged, the additions numbering 562 articles comprised in 61 accessions, nearly all of which were loans, and the installations in the exhibition hall were greatly improved. Four figures were added to the group of White House hostesses, Mrs. James Monroe, Mrs. John Quincy Adams, Mrs. Abraham Lincoln and Mrs. James R. McKee, while the costume of Mrs. Rutherford B. Hayes was changed for another and much more satisfactory one. The more important acquisitions, all loans unless otherwise stated, were as follows: A pair of riding boots of Thomas Jefferson was contributed by Mr. Wilson Cary Nicholas Randolph, jr., of Lynchburg, Va. From Mrs. Louisa Catherine Adams Clement, of Newburyport, Mass., were received a white satin dress covered with white net and trimmed with silver, a pair of slippers and a handkerchief of Mrs. John Quincy Adams, a handkerchief of John Quincy Adams and one of John Adams; and from Mr. Richard Cranch Greenleaf, of Lawrence, N. Y., a silk coat of John Adams, and a brooch set with pearls containing locks of the hair of Mr. and Mrs. John Adams and John Quincy Adams. Mrs. Charles W. Richardson, of Washington, deposited a small gold locket in the shape of a padlock, containing a lock of the hair of Andrew Jackson; while Miss M. S. Lathrop, of Lebanon, N. H., presented a gold locket which had belonged to Miss Abigail Fillmore, daughter of Millard Fillmore, containing her portrait and locks of hair of her father and herself. A purple velvet dress and waist, and a fan and

parasol of Mrs. Abraham Lincoln were lent by Mrs. Julian James; and a white satin dress elaborately trimmed with rosettes, lace and pearls, worn by Mrs. Rutherford B. Hayes during her husband's administration, was received from Col. Webb C. Hayes, of Spiegel Grove, Fremont, Ohio. Accompanying the latter were a handkerchief of Mrs. Hayes, and a framed photograph of her portrait by Huntington in the White House. As a loan from Mrs. James R. McKee, of New York, daughter of Benjamin Harrison, were obtained the dress of white brocaded satin and old-gold silk, trimmed with beads, white kid gloves and gilded kid shoes, worn by her at the inaugural ball in honor of her father, March 4, 1889, together with the fan and handkerchief carried on that occasion.

Noteworthy among the other accessions were a piece of point d'Argentan lace from a collar which belonged to the Empress Eugenie, of France, presented by Mrs. Stephen O. Richey, of Washington; a dress of pale blue silk with raised velvet flowers worn in 1883 by Mrs. Sheridan, wife of Gen. Philip H. Sheridan, then commander-in-chief of the United States Army, lent by Mrs. Sheridan; two lilac brocaded silk dresses of the late Mrs. Hay, wife of John Hay, Secretary of State from 1898 to 1905, lent by Mrs. R. G. Hoes, of Washington; a doll owned by Mary Norton Haworth of Philadelphia which was dressed in mourning for Gen. Washington in 1799, another which belonged to Mary Norton Jenkins of Hudson, N. Y., in 1831, a paper fan with ivory sticks, one of a number of similar design presented as souvenirs to the ladies who attended the ball given in Philadelphia in 1824 in honor of Lafayette, and several articles of wearing apparel of the early part of the 19th century deposited by Mrs. Mary Norton Lower, of Washington; a collection of dolls and dolls' accessories once owned by Miss Ella Slade of Middlebury, Vt., granddaughter of William Slade, governor of Vermont, 1844-46, the gift of Mrs. Burton Thompson, of New York, and Mrs. C. Hill, of Middlebury, Vt.; and several dolls with apparel, lent by Mrs. Allan McLane, of Washington.

Six very handsome brocaded silk dresses and three pieces of brocaded silk of the latter part of the 19th century, which belonged to the Misses Sophia and Clementina Furniss and Mrs. Margaret E. Zimmerman, of New York, were presented by Mrs. Zimmerman. The extensive and varied collection of bonnets of the 19th century, previously on deposit, was made a permanent contribution by Mrs. Henry Kirk Porter, of Washington. From Miss Edythe Tillinghast, of New York, through Mrs. William E. Fendall, of Washington, a large number of laces, including a wedding veil, handkerchiefs, capes, shawls and collars, and many pieces of jewelry, comprising watches, earrings, brooches, bracelets and other objects, were received as a loan.

Art textiles.—No important additions were made to the collection of laces and other art textiles, but the hall in which these beautiful articles are exhibited continued to be one of the most attractive to visitors, the excellent rearrangement of the materials completed by the committee of ladies near the close of the previous year having greatly increased their effectiveness. It is unfortunate that so small a part of this collection is the property of the Museum in view of its very great educational value, but it is hoped that the interest which the ladies have taken in bringing it to its present status will result in measures to insure its permanence.

Exhibition collections.—The exhibition collections in practically all branches of the department of anthropology were more or less extended and improved. The ethnological exhibit in specimen cases may now be said to have assumed its permanent form. The family group of the Igorot of the Philippines was enlarged and completed, while the group of Kiowa children is expected to be finished during the current year. Several sub-family groups were transferred to standard cases, and two cases were installed, respectively, with European peasant costumes and Ute Indian ethnologica. The basketry series displaced from the north hall alcove was arranged in alcoves in the adjacent range.

A number of new specimens of American archeology and many selected from the reserve collections were added to the various type series already exhibited, and a group illustrating the aboriginal stone workers of Mexico was placed on display. The following sections in the exhibition of Old World archeology have been definitely installed, namely, the Belgian, Swiss Lake-dwellings, Egyptian and Palestinian, Italian, Central Asian, Russian, ancient coins, and Egyptian and Italian historic antiquities, and also a model of Stonehenge, the famous megalithic monument of Salisbury Plain, England. In physical anthropology there are now, besides those in the laboratory, 15 cases of exhibits in the hallway on the third floor, and a number of additional ones can readily be filled with very interesting material when floor space becomes available.

In September the temporary partition dividing the south-east range in the older building was removed, and the entire space, assigned to the division of mechanical technology, is being utilized for relieving the congestion in other halls. A new installation was made of the collection illustrating the long distance telephone service to include the transcontinental line from New York to San Francisco and other additions of the year. The completion of the alterations in the main hall of the Smithsonian building and of the new arrangement of cases in the connecting range rendered possible the reclassification and reinstallation of the greater part of the exhibits in graphic arts.

Owing to the large demands on the accommodations furnished by the halls devoted to American history by reason of the extent of recent accessions, the chronological classification of cases and their contents was somewhat disturbed, and the rearrangement of a number of cases was made necessary. The Jamestown cases on the south side of the west-north range, formerly containing the Cromwell stamp collection, were replaced with 13 upright floor cases of the door screen type, which are particularly adapted to certain purposes. Four of these were used for the Dickins collection of Anglo-American pottery which is now admirably displayed in chronological order; two for the Homer N. Lockwood collection of walking-sticks; one for swords; four for objects belonging to the Copp collection of miscellaneous household articles illustrating the period from 1750 to 1850; and three for the Gustavus Vasa Fox collection. Seven new wall cases in the same hall contain, respectively, the United States Army Corps flag and documentary relics of the recently received Lawton collection; the Paul Jones flag, cutlass and musket; the diplomatic costume worn by John Bigelow at the court of Napoleon III; the diplomatic costume of Sidney Mason in 1829; the flag used on the gig of the U. S. gunboat *Varuna* during the Civil War; and a miscellaneous series of objects.

Four new flat-top cases in the northwest court are designed for the ancient Greek and Roman coins and the electrotypes of coins described in the last report. This will complete the installation of the present Museum collection of coins and medals which represents nearly all of the countries of the world and comprises 7,954 specimens. The installation of the postage stamp collection was also finished to the extent of the specimens available for that purpose, which number 38,394. There still remains the task of providing printed labels indicating the source of individual specimens and of preparing a catalogue of the series. The large collection of foreign stamped envelopes and post cards has not yet been worked up, but it would undoubtedly be of great interest to the public could space be found for its exhibition.

Explorations.—Several field investigations conducted during the year by members of the staff were productive of important results and furnished a considerable amount of new material for the collections of the department. The head curator, Mr. William H. Holmes, joined, by invitation, the expedition of the Carnegie Institution of Washington to Central America under the direction of Mr. Sylvanus G. Morley, on which he was absent during a part of February and March. Four of the sites of ancient Maya cities were visited, Quirigua, Guatemala City and Antigua in Guatemala, and Copan in Honduras, studies of particular interest being made at Quirigua and Copan.

Dr. Walter Hough, curator of ethnology, spent 15 days in June exploring ruins at Luna in western central New Mexico. The principal examinations were in a ruin of which the superficial evidences had become obliterated. It was found upon excavation to be that of an extensive village of semi-subterranean circular pit houses, covering about 40 acres. The houses were constructed by digging in the earth to a depth of about 5 feet, erecting posts around the edge of the opening and covering the whole with a roof construction of timbers, brush and earth. There were also mealing and cooking houses, with clay-covered roofs, built on the surface in proximity to the pits, and in them were discovered numerous rude stone implements and crude pottery. A cemetery in which the burials were of infants was unearthed. The arts and industries of the inhabitants of this village were limited and crude, and not much material could be collected. The ruin appears to be very ancient as the surface is completely smoothed over and a foot of bark soil covers the houses. Other ruins of a different character were seen some miles from Luna. At one of these a deeply sunk walled kiva with graded way into it was found to be 54 feet square. On the wall grew a matured pine 8 feet 2 inches in circumference at 6 feet from the ground.

Dr. Aleš Hrdlička, curator of physical anthropology, was granted three months' leave of absence to take up, for the Department of Justice, the anthropological examination of about 800 Chippewa Indians for the purpose of determining which should be classed as full-bloods. In order to fully prepare himself for this work, he was permitted to spend a month among the Sioux Indians of North and South Dakota, and among such of the Chippewa as it seemed especially important to visit beforehand. These preliminary observations, which occupied the month of April, proved to be of great interest and value, and when the actual work of determining the blood status of the Chippewa was begun, results were reached with promptness and certainty. In all approximately 1,200 Indians of all ages were examined, and on 696 of these detailed reports and determinations were furnished, which were regarded as highly satisfactory by the Department. This undertaking was an important practical application of anthropology, and the records are also available for scientific purposes. They make it possible to thoroughly establish the physical characteristics of the Sioux people, and to put on record the present racial status of the Chippewa. The latter people, historically important and still very numerous, will before long be composed entirely of mixed bloods, and had it not been for these examinations, the necessity of which was appreciated by the Indians themselves, the opportunity of studying these tribes from the physical standpoint would probably have been lost forever. The trip likewise resulted in the acquisition of over

200 photographs of the remaining full-bloods among the Chippewa, illustrating them and their mode of life.

Other trips by Dr. Hrdlička in connection with the work of his division were one, under the auspices of the Bureau of American Ethnology, in November, to Buffalo and New York for the purpose of studying the collections of crania in the museum of the Buffalo Society of Natural History and the American Museum of Natural History; and two to Ellis Island, for the Bureau of the Public Health Service, for instructing several of the surgeons at the Island in anthropometry.

During June, 1916, Mr. Neil M. Judd, aid in the division of ethnology, was under detail to the Bureau of American Ethnology, continuing certain archeological investigations begun in western Utah during the previous year. The preliminary observations had disclosed the necessity for extending the northern limits of the area generally recognized as the ancestral home of the Pueblo Indians. The excavations of this year confirmed these findings and established, with a greater degree of certainty, the close cultural relationship existing between the inhabitants of the adobe dwellings in western Utah and the house-building peoples of other sections of the Southwest.

DEPARTMENT OF BIOLOGY.

The additions to the zoological and botanical collections during last year were both extensive and important. In accessions of a mixed character, Asia was especially well represented, the material consisting mainly of mammals, birds, reptiles and batrachians, with many genera and species new to the Museum. The name of Dr. W. L. Abbott remains conspicuous in this connection, through a large collection from Celebes made under his direction and at his expense by Mr. H. C. Raven, and an extremely interesting, though somewhat smaller, donation from upper Siam, made in conjunction with Mr. C. B. Kloss. Particular significance attaches to both of these contributions, as coming from new localities adjacent to regions from which rich material has been accumulating for some years, chiefly through the efforts of Dr. Abbott in the Malay peninsula and archipelago, Borneo, etc., and of Dr. E. A. Mearns in the Philippines. Mr. Arthur de C. Sowerby continued his sendings, which represented field work in Manchuria and northern China; while Mr. Copley Amory, jr., presented an extensive and varied collection secured by him on the expedition of the schooner *Eagle* to the region of the Kolyma River, northeastern Siberia. Composed chiefly of mammals and birds, though including specimens of fishes, plants, and other groups, this Siberian material furnishes an important basis for comparison with the fauna of Alaska on the one hand and of Europe on the other.

The Carnegie Institution of Washington deposited a very large number of invertebrates, with some vertebrates, from the West Indian region, and a vast quantity of botanical material from South America. The Bureau of Fisheries transferred many thousands of marine invertebrates and fishes from various regions, besides numerous mammals and birds from Alaska and reptiles from other localities; and from the Biological Survey many valuable specimens were received.

Mammals.—In the Asiatic collections before mentioned mammals were represented to the extent of 465 specimens from Celebes, 197 specimens from upper Siam, 365 specimens from the Kolyma River region and 108 specimens from Manchuria and northern China, in addition to which Dr. Abbott presented 183 specimens from Kashmir, British India. The material from Siam, which had already been worked up and described by Mr. Kloss, contains a dozen or more forms not hitherto represented in the Museum; while the Chinese collection from Mr. Sowerby includes an example of a race of takin new to the Museum. By exchange with the McMahon Museum at Quetta, Baluchistan, 25 specimens were obtained which also add several forms. Twenty-three large mammals from East Africa, the gift of Mr. Elton Clark, are a welcome contribution from a region just to the west and south of that visited by the Smithsonian African Expedition. A skin and skull of *Mallomys*, a rare rodent from New Guinea, and three sea-leopards, a peculiar species of seal, from the Antarctic Ocean, supplying generic gaps in the collection, were purchased, as were 4 skins and skulls of the Spanish ibex from Sierra Nevada, southern Spain.

Many large skins, recently received, were in process of tanning, several hundred medium-sized skins were prepared for the reserve collection, and several thousand skulls and skeletons were cleaned and made ready for study purposes. The arrangement of the skeletons and skulls of large mammals in the attic storage was retarded by the present lack of sufficient case room, though provision was found for a part of the African antelopes, the first of the Bovidae to be appropriately cared for. The rearrangement and card-cataloguing of the alcoholic collection was continued.

The curator of the division, Mr. Gerrit S. Miller, jr., made considerable progress on a monograph of the American bats of the genus *Myotis*, and, in conjunction with Mr. J. W. Gidley, on a rearrangement of the rodents, including all known fossil as well as recent members of the group. The critical study of certain recent and fossil great apes and Hominidae, alluded to in the last report, was brought to a conclusion and published in the Smithsonian Miscellaneous Collections under the title "The jaw of the Piltown Man." Mr. N. Hollister, the assistant curator, concentrated attention on the

mammals of the Smithsonian African Expedition and those from Mr. Paul Rainey, practically completing work on the Insectivora, Chiroptera, and Carnivora, and about half finishing with the Rodentia. Dr. C. Hart Merriam, associate in zoology, has his manuscript on the bears of North America nearly ready for the press, while Dr. M. W. Lyon, jr., continued his studies of Sumatran mammals.

The members of the Biological Survey and Dr. O. P. Hay, of the Carnegie Institution of Washington, made constant use of the collections, which were also consulted by several other naturalists. Dr. J. A. Allen, Dr. W. K. Gregory, and Mr. H. E. Anthony, of the American Museum of Natural History, examined, respectively, South American mammals, skulls of primates, and miscellaneous forms in connection with remains from cave deposits in Porto Rico. Mr. Edmund Heller had the facilities of the division for determining the mammals of the Peruvian Expedition of 1914-15, of which he was naturalist; and Dr. E. H. Sellards, State Geologist of Florida, brought fossil forms from his State for comparison with recent ones. Dr. Joseph Grinnell, of the Museum of Vertebrate Zoology of the University of California, studied minks, fishers, and other carnivores, and Mrs. Hilda Wood Grinnell, American bats. Mr. G. F. Ferris, of Leland Stanford Junior University, made a systematic search of the mammal collection for parasites attached to the fur, and Mr. Louis Agassiz Fuertes, of Ithaca, N. Y., spent a short time making paintings of North American mammals. Specimens were lent for study to Dr. J. A. Allen and Mr. H. E. Anthony; Dr. G. M. Allen, of the Museum of Comparative Zoology; and Dr. K. Andersen, of the British Museum of Natural History.

Birds.—The birds sent from Celebes by Mr. Raven, amounting to no less than 869 well-prepared and labeled specimens, formed a notable acquisition. One genus, *Ceycopsis* (a kingfisher), and 10 species and subspecies are new to the Museum, and other desiderata will probably be found when the material has been fully studied. The Siamese collection from Mr. Kloss, comprising 133 specimens, contributes a genus, *Anthocincla* (a pitta), and 8 species previously unrepresented. The Siberian contribution from Mr. Copley Amory, jr., consists of 243 skins, 5 nests and 30 eggs, and supplies at least 10 subspecies hitherto lacking in the collection; while the accession of Chinese birds from Mr. Sowerby is noteworthy as adding 2 genera (*Hypopicus*, a woodpecker, and *Herbivocula*, a warbler) and 6 species and subspecies, including 2 pheasants. A dozen other additional forms were contained in a collection from eastern Argentina, obtained in exchange from Dr. Carlos S. Reed, director of the Educational Museum of Mendoza.

Among other accessions may be mentioned a single specimen of the brambling, *Fringilla montifringilla*, an Old World finch of a genus and species hitherto not reported from America, taken on St. Paul Island, Bering Sea, and contained in a small, interesting collection deposited by the Bureau of Fisheries; a rare species of heron, *Pileherodius pileatus*, from Panama, presented by Mr. James Zetek; and a Korean robin, *Icoturus komadori*, contributed by Mr. Harold C. Bryant, of the University of California. To Mr. Edward J. Brown, of Los Angeles, Cal., the division was indebted for the gift of 261 skins of water birds and waders, forms difficult to preserve, prepared with such care as to add greatly to their value as museum study specimens.

The rearrangement of the extensive collection of skins in the reserve series, as revised accommodations are provided, included a continuation of the specimens of ducks as well as of the larger species of the family Corvidae, such as the ravens, crows, etc. The marking with new standard labels of the several thousand skins collected and presented by Dr. W. L. Abbott, begun some years ago, was nearly completed. The collection of skeletons, to which large additions are being made, is becoming uncomfortably crowded, owing to the lack of sufficient storage facilities. The specimens received during the year were, for the most part, verified, labeled and arranged, Dr. Richmond being greatly helped in this matter by Mr. Alex. Wetmore, of the Biological Survey.

Mr. Robert Ridgway, curator of the division, continued the preparation of manuscript for Part 8 of Bulletin 50, the Birds of North and Middle America, which he expects to finish before the expiration of the present year. It will cover the Charadriiformes, which include the shore birds, gulls and auks, and their nearer allies. Volume 7 of this series was issued near the close of the year. Dr. Charles W. Richmond, assistant curator, devoted what little time could be spared from routine and administrative duties to bibliographic and nomenclatorial work, partly for Bulletin 50, and partly for a third supplement to Waterhouse's "Index generum Avium" covering the years 1906-15, which was nearly finished. Mr. J. H. Riley, aid, besides assisting Mr. Ridgway, studied the Chinese collection of birds from Mr. Sowerby, helped in compiling a list of Manchurian birds and prepared a bibliography of the latter for this naturalist. Dr. E. A. Mearns, U. S. Army (retired), associate in zoology, continued the preparation of his report on the East African birds, and also gave attention to the pelicans, the least terns and some Philippine birds. Dr. W. L. Abbott, associate in zoology, examined the birds from San Domingo, preparatory to a collecting trip to that Island. Mr. A. C. Bent, of Taunton, Mass., made considerable progress on his life histories of North American birds, and spent some

time in the division studying the eggs and downy young of North American water birds. The collections were, as usual, frequently consulted by members of the Biological Survey, and especially by Dr. H. C. Oberholser, who was present almost daily, not only in connection with his official work, but in continuation of his studies of the Museum series of Malayan birds and of the osteology of certain groups. Mr. Alex. Wetmore examined both skeletons and alcoholic specimens, and began the determination of a collection of birds from Polynesia. The late Prof. W. W. Cooke, also of the Biological Survey, made use of the collection for data relating to the migrations of birds.

Among a large number of ornithologists from this country and abroad who made studies in the division for varying periods during the year, may be mentioned Dr. Hector Ambrosetti, of Buenos Aires, Argentina; Mr. José C. Zeledón, of San José, Costa Rica; Mr. H. H. Bailey, of Newport News, Va.; Mr. S. B. Buckner, jr., of Mumfordsville, Ky.; Dr. Frank M. Chapman, of the American Museum of Natural History; Dr. Joseph Grinnell, of the University of California; Mr. Wharton Huber, of Gwynedd Valley, Pa.; Mr. R. Warren Kimsey, of Lathrop, Mo.; Mr. F. C. Lincoln, of Denver, Colo.; Mr. W. H. Osgood, of the Field Museum of Natural History; Mr. Edward Palmer, of New London, Conn.; Mr. J. L. Peters, of Harvard University; Mr. William S. Sparks, of Cumberland, Md.; Mr. Harold G. Spink, of Hastings, Fla.; Mr. B. H. Swales, of Grosse Ile, Mich.; Mr. W. E. Clyde Todd, of the Carnegie Museum; Lieut. Townsend Whelan, U. S. Army; and Dr. R. W. Shufeldt, and Mr. Francis M. Weston, jr., of Washington. The collection of eggs was consulted by Mr. Edward Arnold, of Montreal, Canada; Mr. Edward J. Court, Mr. Edwin B. Hunt and Mr. Irvin N. Hoffman, of Washington; Dr. Luther, of Fayetteville, Ark.; Mr. Donald J. Nicholson, of Orlando, Fla.; and Mr. J. Parker Norris, jr., of Philadelphia.

Specimens were lent for study to Mr. W. E. Clyde Todd; Dr. Joseph Grinnell; Mr. S. N. Rhoads, of the Academy of Natural Sciences, Philadelphia; Dr. F. M. Chapman, Mr. George K. Cherrie and Mr. J. P. Chapin, of the American Museum of Natural History; Mr. C. B. Cory, of the Field Museum of Natural History; Mr. A. C. Bent, of Taunton, Mass.; Dr. Louis B. Bishop, of New Haven, Conn.; Mr. J. H. Fleming, of Toronto, Canada; Mr. Loye H. Miller, of the California State Normal School, and Mr. Harry S. Swarth, of the Museum of History, Science and Art, Los Angeles, Cal.; Mr. R. C. Murphy, of the Brooklyn Institute of Arts and Sciences; Mr. E. R. Warren, of Colorado Springs, Colo.; Dr. S. W. Mellott, of Chevy Chase, Md.; and Dr. R. W. Shufeldt and Mr. Frank Bond, of Washington.

Reptiles and batrachians.—The most important accession of the year consisted of material collected in the Panama Canal Zone by Mr. E. A. Goldman, Mr. S. F. Hildebrand and the late Dr. S. E. Meek in connection with the Smithsonian biological survey of the Canal Zone and deposited by the Institution. Though less numerous, the Celebean and Siamese reptiles received from Mr. Raven and Mr. Kloss, respectively, are of more than ordinary value. The material from Siam had already served as the basis of a paper by Malcolm Smith and C. B. Kloss in the Journal of the Natural History Society of Siam. Particular interest attaches to a collection from Rev. L. I. Moffett, of Kiangyin, China, as it contains two specimens of the Chinese alligator, of which the Museum has hitherto had no representatives. It is closely allied to the American species. A small Chinese series from Mr. A. de C. Sowerby adds a species of frog new to the collection, *Rana emeljanovi*.

Work on the monograph of the turtles of North and Middle America by Dr. Leonhard Stejneger, head curator of the department, progressed slowly owing to the limited time he could give to it, but he completed a revision of the amphisbaenian lizards, with very interesting results both systematically and zoogeographically. A paper on this group is in preparation. Among those who consulted the collections were Dr. Thomas Barbour, of the Museum of Comparative Zoölogy, in connection with his work on Cuban herpetology; Miss M. C. Dickerson, curator of herpetology in the American Museum of Natural History, who is preparing a report on the reptiles of the islands in the Gulf of California; Mr. Charles L. Camp, of Berkeley, Cal., who is studying the geographical distribution of California reptiles and amphibians; and Mr. E. R. Dunn, of Haverford College, who examined the salamanders, particularly of the genus *Desmognathus*. Mr. C. W. Gilmore, of the Museum staff, and Dr. O. P. Hay, of the Carnegie Institution of Washington, also made use of the collections in furtherance of their paleontological researches. Specimens were lent for study to Dr. Barbour, Miss Dickerson and Mr. Dunn, and to Dr. E. R. Whitmore, of Washington.

Fishes.—About 18,000 specimens, the result of field work during 1911 and 1912 by Mr. S. F. Hildebrand and the late Dr. S. E. Meek as a feature of the biological survey of the Panama Canal Zone under the auspices of the Smithsonian Institution, constituted the principal acquisition of the year. The conclusions reached from the study of this material are of great importance and are embodied in a report on the fresh-water fishes of the isthmus, recently completed. The Government of Peru presented a valuable collection of fishes made in 1907 and 1908 by Dr. R. E. Coker while in the service of that country, which has served as the basis for an extended paper by Dr. B. W. Evermann and Mr. L. Radcliffe, now in the printer's hand.

Another noteworthy South American collection, admirably supplementing the material from Panama and Peru, was obtained from the Indiana State University in exchange. Some 1,242 specimens collected in various localities by the steamer *Albatross* were received from the Bureau of Fisheries.

Mr. Barton A. Bean, assistant curator, continued the study of the fishes from the *Tomas Barrera* Cuban expedition; he also reported on Chinese specimens from Mr. Arthur de C. Sowerby, and on some Panama specimens submitted by Mr. James Zetek. Mr. S. F. Hildebrand and Mr. L. Radcliffe, of the Bureau of Fisheries, and Prof. C. H. Eigenmann, of Indiana University, had access to the collections for the purpose of making comparisons. Mr. Hildebrand, who found it necessary to consult the South American material of Prof. Eigenmann at Indiana University in the working up of the fresh-water fishes from the Panama Canal Zone, had the latter collection shipped to him at that place, where his report was completed. Specimens were lent to Prof. C. H. Gilbert, of Leland Stanford Junior University, and Mr. John T. Nichols, of the American Museum of Natural History.

Insects.—While there were no especially prominent accessions of insects, several very interesting collections were received. The Bureau of Entomology of the Department of Agriculture deposited 5,000 Lepidoptera, 375 Diptera, and 320 specimens of other groups. A valuable series of 1,900 named beetles from Australia, representing 958 species, was obtained from Mr. A. M. Lea, partly by gift and partly by purchase. Mr. F. J. Dyer, American consul at La Ceiba, Honduras, forwarded numerous specimens from time to time, and Prof. T. D. A. Cockerell, of the University of Colorado, presented 11 types of new species, besides a number of miscellaneous insects. Eighty-seven named species of Australian Hymenoptera were received from the Queensland Museum in exchange.

Some progress was made in transferring Hemiptera to the permanent cabinets, especially specimens in the Uhler collection, but in other orders the work proceeded more slowly owing to the insufficient assistance provided the division.

The scientific activity on the part of the staff connected with the division is indicated in the bibliography. It consisted mainly in the description of new species and to some extent in the systematic revision of smaller or larger groups. A conspicuous piece of work was the monograph on the mosquitoes by Dr. L. O. Howard, curator of the division, Dr. Harrison G. Dyar, custodian of Lepidoptera, and Mr. Frederick Knab, custodian of Diptera, the first part of which, devoted to systematic description, was published by the Carnegie Institution of Washington during the year.

A number of entomologists, in addition to members of the Bureau of Entomology, visited the division for varying periods, but mostly

for a few days only. Among these were Prof. W. T. M. Forbes, of Cornell University; Dr. J. W. Holland, director of the Carnegie Museum; Mr. C. W. Johnson, of the Boston Society of Natural History; Mr. Charles W. Leng and Dr. F. E. Lutz, of the American Museum of Natural History; Mr. William T. Davis, of New Brighton, N. Y.; Mr. A. H. Sturtevant, of New York; Mr. B. Preston Clark and Dr. C. T. Brues, of Boston; Dr. J. H. McDonough, of Decatur, Ill.; and Mr. F. M. Jones, of Wilmington, Del. Specimens were lent for study to Mr. C. P. Alexander, of Cornell University; Mr. E. T. Cresson, jr., of the Academy of Natural Sciences of Philadelphia; Mr. Charles W. Leng and Mr. A. H. Sturtevant; Mr. J. A. Hyslop, of the Entomological Laboratory, Hagerstown, Md.; and Mr. C. R. Jones, of Fort Collins, Colo.

Marine invertebrates.—There were 27 separate transfers of marine invertebrates from the Bureau of Fisheries, which constituted in the aggregate the principal addition to this division. Four of these consisted of material obtained on the expedition of the steamer *Albatross* to the Philippine Islands during the period from 1907 to 1910, which had been worked up and described, as follows: About 10,000 specimens of Crustacea Euphausiacea, by Dr. H. J. Hansen, of Copenhagen, Denmark; 183 lots of Salpa and Pyrosoma, by Prof. Maynard M. Metcalf, of Oberlin College; about 150 starfishes, nearly all type specimens, by Prof. Walter K. Fisher, of Leland Stanford Junior University; and about 1,000 annelids, by Prof. Aaron L. Treadwell, of Vassar College. Other noteworthy accessions from this source included about 5,000 specimens of decapod crustaceans from the cruise of the steamer *Albatross* in the northwestern Pacific Ocean in 1906, now being studied by Miss Mary J. Rathbun; about 2,700 pteropod mollusks and 179 bottles of crustaceans obtained in the tow net by the Coast Survey steamer *Bache* in 1914; about 500 pteropods collected by Dr. H. B. Bigelow on the first cruise of the schooner *Grampus* during the spring of 1915; more than 3,000 miscellaneous specimens from investigations by the steamer *Fish Hawk* in Chesapeake Bay during the autumn of 1915 and the spring of 1916; about 1,000 specimens of fresh-water mollusks from the Mississippi River; and 495 mollusks and other marine invertebrates obtained by Mr. G. Dallas Hanna on the Pribilof Islands, Alaska.

A large accumulation of samples of ocean bottom, contained in nearly 11,000 bottles, secured by vessels of the Coast and Geodetic Survey in the Atlantic and Pacific Oceans and the Gulf of Mexico, were deposited by the Department of Commerce. The Carnegie Institution of Washington contributed several valuable collections, one of which included about 5,000 specimens of miscellaneous marine invertebrates obtained by Mr. C. R. Shoemaker in the Danish West Indies, and another, about the same number of land and marine

mollusks from the Florida Keys, gathered by Dr. Paul Bartsch. Mr. John B. Henderson presented over 3,000 marine invertebrates from dredgings off the coast of Florida by his yacht *Eolis*, and about 7,000 land and fresh-water shells collected by himself and Dr. Bartsch in Cuba in June, 1916.

Many of the smaller donations were also of much interest and value, and attention is specially called to the number of types presented by specialists for permanent preservation in the national collections. These were as follows: From Dr. H. A. Pilsbry, 8 paratypes of a mollusk, *Oreohelix yavapai* var. *angelica*; from Prof. Paul S. Welch, 6 paratypes of two forms of snow worms of the genus *Mesenchytraeus*; from Mr. W. F. Webb, types of two Philippine land shells of the genus *Amphidromus*, described by Dr. Bartsch; from Mr. J. Urita, types of 3 new species of crabs from Japan, and from the University of Michigan, types of 2 new species of land crabs from South America, all described by Miss Rathbun; from Mrs. Mary Vaux Walcott, the type of a new subspecies of land shell from Montana, *Oreohelix yavapai mariae* Bartsch; from Mr. James H. Ferris, many cotypes of land shells from Arizona and New Mexico; from Mr. Austin H. Clark, the type of a new crinoid from New Zealand, the first crinoid recorded from those islands; from Prof. Frank Smith, the type of *Helodrilus welchi* Smith, a new earthworm from Kansas; from Dr. A. L. Treadwell, a cotype of *Metalonome brunnea*, an annelid; and several cotype slides of protozoans described by Miss Irene McCulloch and Miss Olive Swezy, of the University of California.

The exceedingly large number of specimens which reach this division each year, to a great extent in miscellaneous and diversified collections, imposes upon the members of the staff especially arduous and painstaking duties in the matter of sorting, classifying, recording and arranging the material. The past year was no exception in this respect, yet opportunity was found for continuing and completing in part the revision of material in the several great groups embraced in the division, begun some years ago, but always more or less in retard owing to the lack of sufficient skilled assistants to keep the work constantly up to date. Nevertheless, it can be said that the various branches of the collections have at all times been in very fair condition for convenient reference.

Dr. William H. Dall has rearranged the mollusks from the west coast of America, incorporating all previously unclassified material and correcting the nomenclature. The revision of the bivalves has been completed, while that of the gasteropods is about half finished. The Japanese marine shells have been segregated, including the original collection, with the material secured by Stimpson and a number of Gould's types, generous gifts from Mr. John B. Henderson,

and a very large number of specimens from the Imperial University of Tokyo and from Mr. Hirase. The South American, European and a part of the miscellaneous foreign land shells, and the Japanese land and fresh-water shells, have also been rearranged and their classification and labeling perfected. Other collections of mollusks of which the labeling and registration were completed or nearly so were the large donation by Mr. Henderson in 1915; the material from St. Thomas, Danish West Indies, contributed by the Carnegie Institution of Washington; the material from the Smithsonian and Childs-Frick African expeditions; and about 2,000 miscellaneous specimens from the Bureau of Fisheries. The extensive collections of echinoderms, of which about 16,000 specimens have so far been determined by Mr. Austin H. Clark, are being labeled, card-catalogued, placed in new containers and systematically arranged in the storage stack. A similar revision of the immense collection of madreporarian corals is also in progress.

Dr. William H. Dall, honorary curator of mollusks, completed his revision of the Nassidae and Columbellidae of the west coast of America, and a special report on the Oligocene beds of Florida. He began work on the Galapagos land shells collected by the expedition of the California Academy of Sciences, and also on a checklist of the marine bivalves of the west coast of America from the Arctic Sea to San Diego, Cal. Miss Mary J. Rathbun, associate in zoology, submitted the manuscript of a bulletin on the catometopous or grapsoid crabs of America, covering 6 families and about 230 species, each of which is described and figured. A study by her of the swimming crabs, family Portunidae, is well advanced, but there still remains to be examined a very large amount of material from the Philippines and the northwestern Pacific, as well as a collection made by the *Endeavour* in Australian waters and transmitted by the Australian Museum for identification. A short paper on the crabs of the genus *Osachila* from the east coast of North America, and a note on the genus *Cymopolia* which was restored to validity in place of *Palicus* were prepared and published.

The curator of the division, Dr. Paul Bartsch, in addition to contributions cited in the bibliography, had two papers in press at the close of the year, one on the "Californian land shells of the Epiphragmophora traskii group," the other on "Two new land shells from the western States." The following were also nearly ready for publication, namely, on the "Philippine mollusks of the genus Amphidromus," on "New marine mollusks from the west coast of America," and "A monograph of the west American Eulimidae." Dr. Bartsch likewise had in progress a report on the Miocene, Pliocene, and Pleistocene Pyramidellidae of North Carolina, Virginia and Maryland, and another on the land shells of the Lesser Antilles. His obser-

vations on the Bahama Cerions planted on the Florida Keys under the auspices of the Carnegie Institution were continued.

Mr. Austin H. Clark, assistant curator, continued the preparation of his reports on the crinoids of the *Siboga* and *Ingolf* expeditions, and of part 2 of his "Monograph of existing crinoids," which latter was nearly completed, besides finishing a revision of certain families of oligophreate comatulids. During the overhauling of the general echinoderm collection by Mr. Clark, above referred to, 39 new species were discovered and described. Mr. Waldo L. Schmitt, assistant curator, completed a paper on the "Marine decapod Crustacea of California," for publication by the University of California, and continued his studies on macruran forms from the Atlantic coast. Mr. William B. Marshall, assistant curator, devoted such time as could be spared from the care and classification of current accessions of mollusks to the study of the pearly fresh-water mussels, preparing three papers, one descriptive of three new species of South American Diplodonta. Mr. C. R. Shoemaker, aid, continued his study of the Amphipoda.

Dr. T. Wayland Vaughan, custodian of madreporarian corals, gave consideration mainly to the subject of recent coral faunas, completing an extensive paper entitled "Some shoal-water corals from Murray Island, Australia, Cocos-Keeling Islands and Fanning Islands," and a study of "The temperature of the coral reef tract," both of which are to be printed by the Carnegie Institution of Washington; and also a shorter paper on some corals from Kermadec Islands which will be published in New Zealand. "Some shoal-water marine bottom samples from Murray Island, Australia, and comparisons of them with samples from Florida and the Bahamas," was the title of a contribution for the Carnegie Institution by Dr. Vaughan, in collaboration with Dr. Joseph A. Cushman, Dr. Marcus Isaac Goldman, Dr. Marshall A. Howe, and others. Mr. H. K. Haring, custodian of Rotatoria, finished his "Revision of the rotatorian genera *Lepadella* and *Lophocharis*," and continued his studies of the Rotifera of the District of Columbia. He also examined two large collections of plankton, one for Dr. Edward A. Birge, director of the Wisconsin Geological and Natural History Survey, the other made in Alaska by Mr. J. M. Jessup, of the U. S. Geological Survey. Dr. Charles Wardell Stiles, custodian of the section of helminthological collections, and Dr. B. H. Ransom, assistant custodian, conducted important investigations on the parasites of man and other animals.

With respect to the work of collaborators not resident in Washington, it may be said that Dr. J. A. Cushman, of the Boston Society of Natural History, submitted part 6 of Bulletin No. 71, a monograph of the foraminifera of the North Pacific Ocean, and a paper describing new species of foraminifera from the Philippines. He

also began the study of the collection of the same group from the Atlantic Ocean. Dr. Ludwig Döderlein, of Strasburg, Germany, will soon have ready his report on the astrophytons of the *Albatross* Philippine expedition of 1907-1910, while accounts of other groups from the same expedition are in a more or less advanced state, such as those on the Salpidae and Pyrosomidae by Prof. Maynard M. Metcalf; on the echinoids, by Dr. Theodor Mortensen, of Copenhagen, Denmark; on the ophiurans, by Prof. René Koehler, of Lyon, France; and on the starfishes, by Prof. Walter K. Fisher. Dr. H. A. Pilsbry finished his monograph of the Cirripedia represented in the collections of the Museum. Other researches on which good progress was reported are those by Prof. F. Smith on North American Lumbricidae, by Prof. A. L. Treadwell on polychaetous annelids and the Eunicidae, by Dr. Max Ellis on discodrilid worms, and by Prof. Charles B. Wilson on parasitic copepods.

Advantage was taken of the facilities for research afforded by the division by an unusually large number of specialists and students. Mr. John B. Henderson, Regent of the Institution, continued his study of Antillean mollusks. Others who consulted the mollusk collections were Dr. H. A. Pilsbry, of the Academy of Sciences of Philadelphia; Mr. George H. Clapp, of Pittsburgh, Pa.; Prof. Bohumil Shimek, of the State University of Iowa; Mr. G. Dallas Hanna, of the Bureau of Fisheries; Mr. Walter F. Webb, of Rochester, N. Y.; Mrs. G. L. Chaney, of Salem, Mass.; Mr. Bryant Walker, of Detroit, Mich.; Mr. Edward Caum, of George Washington University; and Mrs. T. S. Oldroyd, of Los Angeles, Cal. Mr. George Mathai, of Emanuel College, Cambridge, England, a native of Tranquebar, India, made studies of corals; Prof. Aaron L. Treadwell, of annelids; Prof. Walter K. Fisher, of starfishes; Prof. Maynard M. Metcalf, of Salpa and Pyrosoma; Dr. W. G. Van Name, of the New York State Museum, of ascidians; and Dr. Marcus I. Goldman, of the Geological Survey, of marine bottom deposits. In connection with their paleontological work, Dr. Julia A. Gardner and Dr. Chas. W. Cooke, of the Geological Survey, and Prof. G. D. Harris, of Cornell University, spent some time in the division.

Material for research was supplied to several of those above mentioned and also to Dr. R. P. Bigelow, Dr. Walter Faxon and Dr. Hubert L. Clark, of the Museum of Comparative Zoölogy; Dr. Wesley R. Coe, of Yale University; Prof. J. H. Gerould, of Dartmouth College; Dr. J. Percy Moore, of the Academy of Sciences of Philadelphia; Dr. R. C. Osburn, of the Connecticut College for Women; Dr. M. A. Howe, of the New York Botanical Garden; Prof. R. W. Sharpe, of Brooklyn, N. Y.; Dr. Edwin Linton, of Washington and Jefferson College; Dr. Victor Sterki, of New Philadelphia, Ohio; Prof. C. C. Nutting, of the State University of Iowa; Dr. C. O. Esterly,

of Occidental College, Los Angeles, Cal.; Prof. Harry B. Torrey, of Reed College, Portland, Oreg., and Mr. J. T. Watkins, of the Coast and Geodetic Survey.

Plants.—The Department of Agriculture transferred to the division of plants 6,653 specimens collected by various bureaus, four lots from the Bureau of Plant Industry, as follows, being of especial value: Mounted grasses to the number of 2,983; 552 specimens from the western United States, obtained under the direction of Prof. A. S. Hitchcock in the course of field work devoted chiefly to a study of grasses; 989 specimens also from the western States, gathered by Mr. W. W. Eggleston; and 390 specimens from southern California, collected by Mr. G. N. Collins and Mr. J. H. Kempton. Another very important addition included about 8,000 specimens deposited by the Carnegie Institution of Washington, comprising both herbarium and formalin preparations, resulting from botanical explorations in Brazil and Argentina during the summer of 1915 by Dr. J. N. Rose, associate of the Museum. Besides cactus material, for which this expedition was specially undertaken, the collection consists chiefly of ferns, grasses, algae and mosses. About 2,000 plants from Peru and Bolivia received from the Peruvian expedition of 1914-15, conducted under the auspices of Yale University and the National Geographic Society in cooperation with the Department of Agriculture, are of especial interest as coming from a part of the Andean region from which very little has been obtained in recent years, and as contributing many species new to the herbarium.

Of 2,351 plants from the Bureau of Science, Manila, P. I., about one-half are from the Dutch island of Amboina and represent critical material collected by the late C. B. Robinson with a view to ascertaining the identity of the species described long ago by Rumphius from that island. The Robinson collections are now being studied by Mr. E. D. Merrill, of the Bureau of Science, whose work will be of great value as affording a satisfactory basis for the proper understanding and identification of many closely related species from other parts of the East Indian region, which have often been recorded under untenable names. Five hundred Chinese plants, an instalment of the well-known exsiccatae, *Plantae Wilsonianae*, from the Arnold Arboretum, are of particular importance as including the type collections of many new species from eastern Asia. Mrs. William H. Seaman, of Washington, presented 2,645 specimens, constituting the private collection of the late Prof. Seaman, gathered during a residence of many years in the District of Columbia, and including a large representation of the plants of this region. Among other gifts may be mentioned 510 specimens of Panama plants from Mr. H. Pittier, of the Department of Agriculture, and 650 specimens of *Sphagnum* from Mr. William R. Maxon.

Most of the plants mounted were recorded and incorporated in the reserve collection, together with miscellaneous mounted material, including a small part of the Charles Mohr herbarium not reached the previous year. The distribution now in progress will cover the entire phanerogamic herbarium and effect a permanent arrangement of the accumulated mounted specimens. The relief of congestion afforded by the 25 cases left vacant by the withdrawal of the herbarium of the late Dr. Edward L. Greene early in 1915 has proved only temporary, and the provision of additional cases will soon become extremely urgent, notwithstanding that all duplicates and unassorted material have been eliminated from the phanerogamic study series.

The segregation of type and duplicate type specimens of phanerogams was continued by Mr. Standley. These now amount to 6,264 specimens, labeled, recorded and kept apart by themselves in special cases, an arrangement which has been found exceedingly advantageous to the members of the staff and to visiting botanists. Progress was also made in reorganizing the cryptogamic collections, particular attention having been given to the fungi and mosses. The former were entirely rearranged by Mr. H. R. Rosen, and the latter by Miss M. F. Miller. The quantity of accumulated material pocketed, mounted and partly distributed in the herbarium was large, reaching, in the case of the mosses, about 25,000 specimens. The classification followed is, with very slight modification, that of Engler and Prantl's "Natürliche Pflanzenfamilien." The completion of this work should place the collections of both these groups in satisfactory condition.

The curator of the division, Mr. Frederick V. Coville, continued his study of the genus *Vaccinium*, begun several years ago. Favorable progress was made in the preparation of the manual of the flowering plants and ferns of Washington, alluded to in the last report, under the supervision of Mr. Coville and Prof. A. S. Hitchcock, and it is hoped that it may be possible to have it issued in the form of a small pocket volume early in 1917. The use of ultra-technical terms is being avoided as much as possible in order to make the work genuinely useful to amateurs and to others without professional botanical training. Besides the material afforded by the division, which has been segregated in a series of cases as a District herbarium, the collecting of fresh specimens is being extensively carried on with the help of botanists interested in the project, especially with reference to critical and poorly represented groups. Provisional manuscript keys to the families, genera and species represented in the District flora have already been practically completed and distributed in an edition of about 40 sets, primarily for the benefit of those who are cooperating in the work. When tested and revised, they will form the basis for the final manuscript.

Dr. J. N. Rose, associate in botany, continued his investigations on the Cactaceae in collaboration with Dr. N. L. Britton, in preparation of a monograph of the group under the auspices of the Carnegie Institution of Washington. The first installment of this work was submitted for publication during the year. Mr. William R. Maxon, associate curator, contributed an additional paper (No. 6) to the series entitled "Studies of tropical American ferns." His work on the ferns of North America related especially to the genus *Polypodium*. Mr. Paul C. Standley, assistant curator, prepared several papers, including a second number of the series "Studies of tropical American phanerogams." In addition to other descriptive matter, he carried nearly to completion the manuscript for the family Allioniaceae for the "North American Flora." During such time as could be spared he also began the identification of the phanerogamic plants collected by the Smithsonian African Expedition, and, despite the limited amount of east African material available for comparison, excellent progress was made, nearly one-half of the specimens being determined during the year. Mr. H. R. Rosen, aid, was the author of a paper relating to leaf galls, and Mr. E. S. Steele, editorial assistant, gave attention, as usual, to the study of the genus *Laciniaria*. Capt. John Donnell Smith, associate in botany, continued his studies of Central and South American plants.

Besides the constant use of the plant collection by members of the scientific staff of the Department of Agriculture, investigations were prosecuted in the herbarium by the following botanists located elsewhere, on the subjects indicated, namely: Mr. E. D. Merrill, of the Bureau of Science, Manila, P. I., on East Indian and especially Philippine plants; Dr. N. L. Britton, Director-in-Chief of the New York Botanical Garden, on Cactaceae; Dr. P. A. Rydberg, of the same institution, on the "North American Flora" and the "Rocky Mountain Flora"; Dr. B. L. Robinson, Curator of the Gray Herbarium of Harvard University, who is preparing a monographic revision of the genus *Coleosanthus*; Prof. Aven Nelson, of the University of Wyoming, on several genera of plants as represented in the Rocky Mountain region; Prof. William Trelease, of the University of Illinois, monographic studies of the genera *Phoradendron* and *Quercus*; Mr. Harold St. John, of the Canadian National Herbarium, Ottawa, on the genus *Androsace*; and Prof. G. W. Stevens, of Cambridge, Mass., on the flora of Oklahoma.

The number of specimens lent for study outside of Washington was 5,112, the principal sendings having been as follows: Ferns of the genus *Nephrolepis* to the Brooklyn Botanic Garden for Dr. R. C. Benedict; Hepaticae, including examples of the genus *Marchantia* which he is monographing, to Prof. Alexander W. Evans, of Yale University; specimens of *Coleosanthus* and *Androsace* to the Gray

Herbarium, those of the former genus for Dr. Robinson, of the latter for Mr. Harold St. John, who is engaged on a revision of the genus; Hepaticae, nearly all belonging to the Louisiana collection of the late Rev. A. B. Langlois, to serve as a basis for an annotated list of the group as represented in that State, to Miss Caroline C. Haynes, of Highlands, N. J.; specimens of *Adenostegia* and *Lotus* to the Leland Stanford Junior University for a revision of these genera under the direction of Prof. LeRoy Abrams; specimens of *Carex* to Mr. K. K. MacKenzie, of East Orange, N. J., for a monographic study of the genus as represented in North America; and specimens of *Senecio* to the Missouri Botanical Garden for a monographic work by Dr. J. M. Greenman. A very large amount of material was sent in various lots to the New York Botanical Garden, partly for identification and partly for use in the preparation of contributions to the "North American Flora," that intended for the latter purpose including 857 specimens of the difficult genus *Parosela* for study by Dr. P. A. Rydberg. Algae were determined for the Museum by Dr. M. A. Howe; fungi, by Dr. W. A. Murrill; and mosses, by Mrs. E. G. Britton and Mr. R. S. Williams.

Exhibition collection.—The principal accomplishment of the year was the opening of the whale exhibit in the second story south hall of the west wing of the new building, which, though not quite completed, had been sufficiently advanced to furnish a very impressive and interesting display. The huge model and the skeleton of the sulphurbottom whales occupy the center of the floor space. On the north side are four long wall cases, two containing skeletons of the smaller toothed whales, and one with casts and models of dolphins and porpoises, the fourth being reserved for a series of photographs depicting the various stages of preparation in the field of the above mentioned model and skeleton of sulphurbottom whales. From the ceiling are suspended five large skeletons of whalebone whales, space being reserved for one of the rare gray whale now in process of cleaning. On the eastern wall is displayed a half cast of a beaked whale, while distributed in various places on the other walls are casts of heads, mostly of dolphins and porpoises. The broad spaces between the windows are intended to be used for the large whale heads now with the osteological collection. Thus the whale hall will contain all the cetacean material at present available for exhibition, except the large toothed whale, *Berardius bairdi*, which for lack of space there must be retained in the skeleton hall. The work of re-installing this exhibit, the larger objects in which were only recently brought from the older building, has been one of considerable magnitude, and has required unusual skill on the part of the preparators.

The splendid group of the common elk or wapiti of the Rocky Mountain region, forming part of the Government exhibit at the

Panama-Pacific International Exposition, was transferred to the Museum during the year. It shows a family of three individuals, male, female, and young, at the first approach of winter. Snow has fallen during the night, while there was no wind, and lies heavily on the pine boughs and branches. Designed and executed by Mr. James L. Clark, of New York, it is of the same size as the bison and moose groups and will be placed between them in the great western skylighted hall of American mammals. Temporarily installed on its arrival without a case, one is now being constructed for it in order that it may be safely preserved under glass.

To permit a more adequate representation of South American mammals in the western end of this same hall, the two cases originally assigned to this purpose have been supplemented by a large wall case, 17 feet long. In the upper part of this case the ordinary pyramidal shelf arrangement has been replaced by a large natural tree branch, on which monkeys and sloths are mounted, the lower part being occupied by a vicugna and several deer. The floor in these cases has been covered with an olive-colored sand, on which the animals are placed in easy position without the customary stands. This innovation, which has been tested for more than a year, has been commented on with much favor by many visiting naturalists and is so satisfactory in its results that the method will be extended as far as the conditions warrant.

A large number of small mammals were added in various parts of the exhibition series, especially in the African section. Of larger specimens mention need only be made of an example of the rare Antarctic leopard seal, a fine mounting of the Pacific coast harbor seal and a splendid wild Chinese boar. To the bird collection there were few additions, though many old and inferior preparations, especially of parrots, were made over, greatly enhancing the appearance of the entire exhibit, which was further improved by a radical rearrangement of a large portion of the North American birds. The owls were brought together in one case and the crowded condition of several other cases, particularly among the water birds, was greatly relieved. The removal of the skeletons of the smaller toothed whales, as before described, resulted in certain readjustments in the hall containing the vertebrate skeletons. The assembling in the case thus vacated of the order Perissodactyla (tapirs, horses, etc.) made it possible to devote the two wall cases in the eastern part of the hall to the Artiodactyla (deer, sheep, antelopes, etc.). Opportunity was also found to place under glass the fine skeleton of the American bison, which formerly stood uncovered, and to install in one of the cases the skeletons of a manatee and dugong.

Explorations.—Through the generosity of friends and other cooperation, this department participated in the results of important field

work in various parts of the world. Reference was made in the last report to the provision by Dr. W. L. Abbott for extending the operations of Mr. H. C. Raven to the island of Celebes, where the first year was successfully spent. Mr. Raven returned to the United States for rest and refitting early in the summer of 1915, but left again for the East about the middle of October, and has already reported the shipment of a collection from the northeastern extremity of Celebes. Dr. Abbott himself, at the end of the year, was embarking for Santo Domingo for the purpose of obtaining material in that little-known island.

Mr. John B. Henderson, Regent of the Smithsonian Institution and a valued collaborator of the Museum, continued investigations with his yacht *Eolis*, dredging along the Pourtales Plateau with excellent success and presenting the Museum with about 3,000 specimens of marine invertebrates resulting from the cruise. During the early part of the summer, with Dr. Paul Bartsch as his guest, he spent about three weeks in Cuba, exploring certain parts of the Organos Mountains for the purpose of completing all of the links in the chain of collecting stations from Havana province to the westernmost part of Pinar del Rio. Together they visited the Cuzco Mountains adjoining the Sierras, and the region about Rangel; thence they proceeded westward to the mountains close by Santiago de los Baños; then, omitting a large section of the Sierras which had previously been more or less completely examined, they went to Luis Lazo to look for living specimens of the lost *Licina percrassa* of Wright. About 7,000 land shells secured during this expedition were donated to the Museum.

Large collections in zoology and botany obtained during explorations on behalf of the Carnegie Institution of Washington have been made permanently accessible to the scientific world by their deposit in the National Museum, a liberality which is highly appreciated by naturalists. During last year there were several very important accessions from this source. The expedition to Brazil and Argentina by Dr. J. N. Rose for the Carnegie Institution and New York Botanical Garden for the purpose of collecting and studying Cactaceae, furnished about 8,000 specimens of plants, besides much zoological material. With the assistance of Mr. Paul G. Russell, of the Museum, who accompanied him, Dr. Rose was able to make much larger collections, including plants other than cacti, than would otherwise have been possible. The course of the trip, which consumed over 5 months, was from Bahia to Buenos Aires and across Argentina to Mendoza near the foot of the Andes. The investigations for the Carnegie Institution, chiefly in the West Indian region, undertaken by Dr. T. Wayland Vaughan, of the Geological Survey and custodian of madreporarian corals in the Museum, with the view of determining

the rate of growth of corals, their rôle in reef building and related problems, were continued during last year. In connection with these studies and for the purpose of securing as complete a representation as possible of the coral fauna of the Danish West Indies, Mr. C. R. Shoemaker, aid in the division of marine invertebrates, was detailed for two months during the summer of 1915 to collect in the open waters, bays and channels of the Virgin Islands. The main objects of the expedition were carried out with considerable success and incidentally some 5,000 specimens of marine invertebrates other than corals were secured for the Museum. Shore collecting was also done and a few land animals obtained. Dr. Paul Bartsch paid a fourth visit to the Florida Keys in the latter part of May and early June, 1916, to inspect the colonies of Cerion mollusks transplanted from the Bahama Islands. He found an abundance of young of the second generation of Florida-grown individuals, but no adult specimens, which are looked forward to with great expectation since this generation marks a critical point in this study of evolution.

The collecting field of Mr. Arthur de C. Sowerby during the summer and fall of 1915 was northern Manchuria, whence, in spite of great difficulties, he was able to forward an important collection of animals of various classes. The expedition to northeastern Siberia in the schooner *Eagle*, described in the last report, proceeded from Seattle, through Bering Strait, to Nizhni Kolymsk, near the mouth of the Kolyma, the easternmost of the large Siberian rivers. Here, considerably north of the Arctic Circle, the party wintered, and from this place collecting trips were made into the interior as far south on the Kolyma as Verkhni Kolymsk. In September, 1915, the expedition returned to Nome, Alaska. Mr. Copley Amory, jr., collaborator in zoology, to whom the success of the undertaking was largely due, secured through his indefatigable efforts the large series of mammals and birds mentioned under the accessions, besides specimens in various other groups, principally plants, fishes and birds' eggs, all of which he generously presented.

The Peruvian expedition of 1914-15 under the joint auspices of Yale University and the National Geographic Society made large collections of animals and plants which were deposited in the Museum. The plants, numbering about 2,000, were mainly gathered by Prof. O. F. Cook and his assistant, Mr. G. B. Gilbert, both of the Bureau of Plant Industry, who were detailed to this exploration by the Department of Agriculture. The zoological results, especially as regards vertebrates, were no less important, due to the intelligent activities of Mr. Edmund Heller, who was also attached to the expedition. Mr. F. J. Dyer, American Consul at La Ceiba, Honduras, has shown his continued interest in the Museum by forwarding from

that country from time to time many valuable specimens, especially of insects and land mollusks.

In the fall of 1915 the Bureau of Fisheries began a study of the biologic and hydrographic conditions of Chesapeake Bay at different seasons under the direction of Mr. Lewis Radcliffe. The steamer *Fish Hawk* made three short cruises during the year, in October, December and April, respectively, on each of which the division of marine invertebrates was permitted to send a representative for the purpose of preserving specimens desired for the Museum. Mr. William B. Marshall was present on the first cruise, Mr. Clarence R. Shoemaker on the second, and Mr. J. A. Mirguet on the third.

DEPARTMENT OF GEOLOGY.

The additions to this department were received in 185 accessions, with specimens distributed to the several divisions and sections approximately as follows: Division of systematic and applied geology, about 980 specimens of which 32 were meteorites, besides several tons of material from the Yellowstone National Park; division of mineralogy and petrology, 477 minerals and many specimens of petrology which had been only partly unpacked and recorded; section of invertebrate paleontology, 47,699 specimens; section of vertebrate paleontology, 397 specimens; and section of paleobotany, 307 specimens.

The number of lots of specimens received for examination and report in the interest of the senders amounted to 715, of which 334 were geological, 328 mineralogical, and 53 paleontological.

Systematic and applied geology.—In the course of his explorations in the Rocky Mountain region during the summer of 1915, Dr. Charles D. Walcott, Secretary of the Smithsonian Institution, procured for the department of geology in the Yellowstone National Park an exceedingly large and important collection, which included a well selected series of the siliceous and calcareous sinters in masses often of exceptional size, native sulphur, silicified wood, sundry mineral specimens and a large representation of volcanic rocks. As a supplement to these materials and having in view the installation of a Yellowstone National Park exhibit, a large relief map of the Park, colored to show its geology and general geographic and physiographic features, was purchased, and 10 transparencies of some of the more striking views in the Park were made by Mr. J. K. Hillers.

Through the cooperation of Dr. W. T. Schaller, of the Geological Survey, who is making a study of the pegmatite deposits of southern California, the Museum was enabled to obtain a systematic collection from that area, which is to be arranged in illustration of the geology and mineral associations of these peculiar formations, which are of unusual interest both from a scientific point of view and on

account of the gem minerals they yield. A somewhat smaller series was secured for the Museum by Dr. Joseph E. Pogue from the emerald mines at Muzo, Colombia. Through the intercession of Mr. Victor C. Heikes, of the Geological Survey, a number of scheelite specimens of more than ordinary interest were presented by Mr. L. G. Schwalenberg and Capt. Duncan MacVichie, of Salt Lake City, Utah. Mr. B. H. Dunshee, of Butte, Mont., contributed an unusually fine, large specimen of secondary copper sulphate from the Silver Bow Mine of that district.

The Geological Survey transferred specimens illustrating the nitrate deposits in southern Idaho and eastern Oregon, and also of potash-bearing salts and associated rocks from the vicinity of Tonopah, Nev., presented by Mr. D. H. Walker. These collections, though small, are of much interest in view of the importance in the present emergency of the salts mentioned. Dr. Joseph P. Iddings, who during the past two years has traveled extensively among the islands of the south Pacific and Indian Oceans, obtained for the Museum some desirable examples of the peculiar problematic bodies known as obsidianites and Darwin glass from Borneo and Tasmania; an important series of phosphate rocks from Ocean and Makatea Islands; and a large mass of diatomaceous earth from Uahuka.

To the building stone collection were added a polished slab of the Mount Airy, N. C., granite, a gift of the North Carolina Granite Corporation, and two large slabs of Token Alaska marble, presented by the Vermont Marble Company.

The division was especially fortunate in the acquisition of meteoric material. The gifts comprised two large, fine samples of meteoric iron from Mount Edith and Mungindi, Australia, presented by Mr. C. S. Bement, of Philadelphia, through Prof. F. W. Clarke; a 510-gram fragment of the Molong, New South Wales, pallasite, from the Department of Mines, Sydney, Australia; and a 52-gram fragment and 15 grams of shavings of the well-known Toluca iron, from Dr. F. C. Nicholas, of New York. Those obtained through exchange consisted of a slice of a peculiar, coarsely crystalline meteoric iron found near Cookeville, Tenn., a 36-gram slice of the Silver Crown, Wyo., iron, 15 grams of the Pillistfer, Russia, meteoric stone, and a 35-gram specimen of the Whitfield County, Ga., meteoric iron, from Ward's Natural Science Establishment, Rochester, N. Y.; 80 grams of the Whitfield County and 227 grams of the Locust Grove, Ga., irons, from the Field Museum of Natural History; a 272-gram piece of the Mount Stirling iron, from the Australian Museum, Sydney; a 382-gram slice of the Thurlow iron, from the Victoria Memorial Museum, Ottawa, Canada; and a 22-gram fragment of the Sams Valley, Oreg., meteoric iron, and a 10-gram fragment of Grossliebenthal, Russia, meteoric stone, from Mr. W. H. Tomlinson, Swarth-

more, Pa. The purchases included two meteoric stones from near Plainview, Hale County, Tex.; a fragment of meteoric stone found in Lake Okechobee, Fla.; and the following 15 samples of stony and iron meteorites, namely, Aussun, France, 53 grams; Beaconsfield, Australia, 124 grams; Skookum Gulch, Yukon, 174 grams; Blithfield, Canada, 129 grams; Bori, India, 120 grams; Chandakapur, India, 11 grams; Grüneberg, Prussia, 9 grams; Jackson County, Tenn., 46 grams; Kingston, N. Mex., 335 grams; Laurens County, S. C., 13 grams; Lutschaunig, Desert of Atacama, South America, 74 grams; Locust Grove, Ga., 373 grams; Lundsgard, Sweden, 97 grams; Mauerkirchen, Austria, 40 grams; Ponca Creek, Holt County, Nebr., 30 grams.

Work on the reserve series consisted mainly in the arrangement, labeling and cataloguing of the large collection made by Secretary Walcott's party in the Yellowstone National Park; of the Tenth Census ores of the precious metals, an old collection which has long needed attention; and of other miscellaneous materials, including the mineral phosphates and a series of gold, zinc and copper ores from Colorado. The condition of the collections in this division is fairly satisfactory, though the non-metallic minerals still need overhauling and rearranging.

But few special investigations were undertaken upon the collections in the division of geology, though numerous identifications were made and many of the older ones confirmed. The head curator continued his researches on meteorites, and furnished material for several publications on the subject. Mr. Robert B. Sosman, of the Geophysical Laboratory, had the use of specimens in connection with his studies on types of prismatic structure in igneous rocks, and other members of the same institution, as also members of the Bureau of Standards and the Geological Survey, consulted the collections and utilized the facilities of the laboratory from time to time. Dr. Joseph P. Iddings spent several weeks unpacking and arranging his collections from the islands of the Indian and southern Pacific Oceans, and Mr. D. F. MacDonald worked upon his collections from the Panama Canal Zone.

Mineralogy and petrology.—The largest addition to the mineral collections, received from the Geological Survey, consisted of about 300 specimens from California, mostly illustrating the report of Dr. W. T. Schaller on the gem minerals of the pegmatites. The principal gifts were as follows: From Mr. C. S. Bement, of Philadelphia, through Prof. F. W. Clarke, some magnificently crystallized specimens of hodgkinsonite, betafite, eudialyte and hopeite; from Mr. Fritz Mella, of Santiago, Chile, four mineral specimens from Chile, including one exceptionally fine piece of ruby silver; and from Mr. Percy Train, of Manhattan, Nev., a suite of specimens of vashegyite,

variscite and associated rock, from Manhattan. Thirteen specimens of minerals, chiefly recent finds not heretofore represented in the Museum collections, were obtained in exchange from Mr. J. G. Manchester, of New York. Through purchase, the collections were enriched by a series of cut sapphires of varying colors, from Montana, and a fine cut kunzite; one excellent specimen each of native silver and erythrite from Cobalt, Canada; an unusually fine, large mass of the rare mineral hewettite; and a specimen each of the rare minerals euxenite and ampangabeite. Dr. E. T. Wherry, while in the field, collected an interesting series illustrating the occurrence of glauberite in the Triassic rocks, a series of shales showing diffusion rings, and specimens representing the genesis of the mineral chloropal.

The petrological collections were increased by 18 specimens of alkaline igneous rocks from the Ice River District, British Columbia, received in exchange from the University of Alberta, and by the following transfers from the Geological Survey, namely: 14 boxes of rocks illustrating the Taconic region of New England, as described by Dr. T. Nelson Dale; 148 specimens representative of the geology and ore deposits of the Helena mining district, Mont., as described by Dr. Adolph Knopf; 28 specimens illustrating the geology of the Apishapa quadrangle, Colo., as described by Mr. G. W. Stose; and 11 specimens of nepheline syenites and related rocks from near Brookville, N. J., described in a publication by Dr. F. L. Ransome.

Work on the cataloguing and arrangement of the type and other described material in cases in the office of the assistant curator has been completed, and the collection now secured against possible loss, at the same time being readily accessible to specialists, to whom alone it is of interest. The specimens accessioned during the year were for the most part assigned to the reserve series, although a few of the more showy ones were placed on exhibition in the "recent accession" cases.

The preparation of large case labels for the systematic mineral exhibition collection was continued. A new style of frame for holding these, made of mahogany and conforming to the design of the cases, was adopted. The writing of the labels themselves required much attention, as it is desired to have them not merely conform to Dana's System of Mineralogy, with the additions described since that work was published, but also to represent a new arrangement of the species in which various recent discoveries in chemistry and mineralogy might find expression. It is hoped that the series when completed will constitute a distinct contribution to the subject of mineral classification, and that the collected labels may be published, along with explanatory matter, for the benefit of curators of other mineral collections.

Dr. E. T. Wherry, assistant curator, contributed the results of several researches on interesting material contained in the collection

or recently received. One group of papers entitled "Notes on alunite, psilomelanite and titanite" will appear in the Proceedings of the Museum. Another paper, descriptive of "A peculiar intergrowth of phosphate and silicate minerals," was published in the Journal of the Washington Academy of Sciences. In examining specimens of zeolites from northern New Jersey, Dr. Wherry noted the resemblance of certain cavities they contain to the mineral glauberite, similar cavities in red shale having proved to represent that mineral. This discovery, first announced at a meeting of the Geological Society of Washington, was the subject of a note on "The lozenge-shaped cavities in the First Watchung Mountain zeolite deposits," printed in the Journal of the Washington Academy of Sciences. The conclusions reached as to the identity of the original mineral have been universally accepted. A brief report on calcite specimens collected in Yellowstone National Park by Mrs. Charles D. Walcott was incorporated in "Explorations and field work of the Smithsonian Institution in 1915." Work has been begun on a revision of the catalogue of gems in the Museum collection, which it is expected to complete early in the current year. It will include a rearrangement of the former lists, a recalculation of the weights of stones in terms of the new metric carat, and new descriptive text.

Invertebrate paleontology.—The Geological Survey deposited some 3,000 specimens of Tertiary fossils from the Atlantic and Gulf Coastal Plain, representing several years collecting by Dr. T. W. Vaughan and his assistants; 190 types and figured specimens described by Dr. E. M. Kindle and Mr. C. L. Breger in the 28th annual report of the Indiana Geological Survey; 58 specimens of Upper Cretaceous corals described by Mr. L. W. Stephenson; upward of 1,000 specimens representing 30 forms of Cretaceous fossils obtained by Mr. C. M. Bauer in the San Juan Basin, northwestern New Mexico, including types and figured specimens described by Dr. T. W. Stanton in a forthcoming Professional Paper of the Survey; and about 500 specimens of Devonian fossils described by Dr. E. M. Kindle in Bulletin 391 of the Survey and elsewhere.

Material was received in exchange as follows: From the North Carolina State Museum at Raleigh, a collection of Upper Cretaceous fossils of great historic interest as containing the types described by Prof. T. A. Conrad; from the Walker Museum, University of Chicago, 140 plastotypes, representing 131 species of Paleozoic fossils, which are of particular value inasmuch as many of the original types have been destroyed by fire; and from Ward's Natural Science Establishment, Rochester, N. Y., 10 specimens of fossil insects from the Florissant beds of Colorado. Among the gifts were the types of 3 new species of fossil crabs, represented by 35 specimens, described by Miss Mary J. Rathbun, and received from Mr. W. H. Over, of the University of

South Dakota; about 5,000 selected specimens of fossil Bryozoa and Ostracoda, from Dr. R. S. Bassler; and several thousand specimens of Tertiary Bryozoa from classic localities in Australia, from the National Museum at Melbourne.

In the laboratory of Secretary Walcott, all of the collections made by him have been labeled as to locality and formation, and most of the material has been prepared for study, Dr. Walcott having given much of his personal attention to this as well as to the rearrangement and cataloguing of the specimens. Mr. C. E. Resser, assistant curator, who has immediate custody of the Cambrian collections, completed during the year the work of assembling and arranging the brachiopods and trilobites. He also classified many thousand duplicates transferred to the Museum by Dr. Walcott in past years, and assisted the curator of the division in bringing together and arranging the rock collections illustrating the Paleozoic formations of North America, as well as in enlarging the biologic collection of brachiopods, which has been increased by over 60 standard drawers. This biologic series is the one most frequently consulted by students, and requires constant attention to keep it up to date. The curator, Dr. Bassler, has himself taken personal charge of the collections from the remaining divisions of the Paleozoic. Following a suggestion by Dr. Walcott, all of the western post-Cambrian Paleozoic material has been segregated and arranged in one room. A restudy and rearrangement of the Paleozoic corals, undertaken during the year, increased this collection by about 50 drawers of specimens. The accessions of the year were classified and distributed.

Mr. Charles Butts, of the Geological Survey, devoted nearly 7 months to the study and preparation of the large collection of Devonian fossils from the Appalachian region; and Mr. W. E. Crane, a retired civil engineer and experienced student and collector of fossils, spent several months upon the biologic series of brachiopods and the foreign Mesozoic fossils. Mr. Crane's familiarity with the paleontology of foreign countries enabled him to classify and arrange over 200 standard drawers of material, making it for the first time available for reference. His work was especially important for the Museum because of the accurate labels he was able to place with the specimens.

Mr. Frank Springer, associate in paleontology, aided by his private assistant, Mr. Herrick E. Wilson, continued his work on the fossil echinoderms under his charge. He also supervised the separation of the reserve and duplicate specimens in about 150 drawers of crinoids turned over to the Museum during the year, incorporating the study material selected in the general reserve series. Dr. E. O. Ulrich, also associate in paleontology, continued the preparation and study of the Lower Ordovician and related collections in connection with the monographs which he has under way.

The Mesozoic collections, remaining as heretofore in the care of Dr. T. W. Stanton and Mr. T. E. Williard, have increased so greatly in extent during the past five years as to necessitate in large part a complete rearrangement and geographical classification. Under the direction of Dr. William H. Dall, the work of indexing the Tertiary fossils was continued in the intervals of more urgent work.

Dr. Charles D. Walcott completed two papers, one entitled "The study of Cambrian Trilobites," the other discussing the conclusions of Dr. Rothpletz on the work of American geologists in the Cambrian and pre-Cambrian rocks of central Montana, based on his own field work and collections. Dr. Dall contributed a report on the fauna of the Oligocene beds of Flint River, Fla., collected by Dr. Vaughan and Mr. W. C. Mansfield of the Geological Survey, and commenced an account of the fossils of the Galapagos Islands, off the coast of Ecuador. These islands have a very peculiar fauna, upon the derivation of which Dr. Dall's studies are expected to throw much light. The final report on the Tertiary fauna of the Panama Canal Zone by Dr. Dall has been deferred in order to complete work on the Late Tertiary of the northwestern coast of America, on which good progress is being made.

Mr. Springer has delayed the completion of his monographs on the *Crinoidea flexibilia* and the genus *Scyphocrinus* that he may incorporate the results of studies, now in progress, on a considerable amount of new material recently received from his private collectors, but both of these important contributions are expected soon to be ready for printing. Dr. Ulrich continued his researches on Ozarkian and Canadian fossils and, in collaboration with Dr. Bassler, had nearly finished a monograph on the Silurian Ostracoda of Maryland, which will be published by the Maryland Geological Survey.

Dr. R. S. Bassler, curator of the division of paleontology, in collaboration with Mr. Ferdinand Canu, of Lyon, France, completed the text of a monograph on Early Tertiary Bryozoa of America, the making of the illustrations for which will occupy several months more. About 500 species and 47 new genera are described. A synopsis of American Tertiary Bryozoa was submitted for publication during the year by the same authors. Dr. Bassler also prepared a paper on the Cretaceous Bryozoa of Maryland for the Maryland Survey, and another on the Tertiary Bryozoa of Panama and the Windward Islands for the Carnegie Institution of Washington. Miss Mary J. Rathbun, associate in zoology, reported on a collection of fossil crabs from the Cretaceous of South Dakota, representing 3 species, all previously undescribed, one made the type of a new genus for which a new superfamily of the sub-tribe Dromiacea was constituted.

Dr. T. W. Stanton, custodian of the Mesozoic collection, described for the Geological Survey the "Non-marine Cretaceous invertebrates

of the San Juan Basin, New Mexico," this paper being based on material collected by the Survey and recently deposited in the Museum. Mr. C. E. Resser, assistant curator, continued as time permitted the preparation of a bibliographic index of American Cambrian fossils, and also an illustrated catalogue of trilobites for Dr. Walcott. Prof. T. D. A. Cockerell, of the University of Colorado, made a study of the fossil insects in the Museum collection.

Vertebrate paleontology.—The principal accession of the year in this division, as also the most valuable donation for a considerable period, was a nearly complete skeleton of a large mastodon, found on the farm near Winamac, Ind., of Capt. H. H. and Mr. W. D. Pattison, by whom it was presented, the disinterment having been made at the expense of the Museum. It has been mounted and installed in the exhibition hall of vertebrate paleontology. The Koren expedition to the Kolyma River region of northern Siberia was accompanied by Mr. Benno Alexander as collector of vertebrate fossils for the Museum, who, notwithstanding many difficulties encountered, obtained much valuable material, including nearly 200 individual specimens, of which the most important was a fine skull of the Siberian mammoth, the only skull of this northern form now in any American museum.

Through exchange the following specimens were received: From the California State Normal School at Los Angeles, a skull of the fossil dog *Canis orcutti* from the Pleistocene deposits of Rancho La Brea; from the Peabody Museum of Natural History of Yale University, casts of the bones constituting the type of the carnivorous dinosaur, *Allosaurus fragilis* Marsh; and from the American Museum of Natural History, a cast of the skull and lower jaws of the 3-toed horse, *Merychippus sejunctus*. The purchases included an important collection of the remains of small mammals from the Fort Union formation of Montana, and 10 restorations of dinosaurs modeled by Mr. Charles W. Gilmore, which add an important feature to the exhibition series in connection with the full-sized skeleton mounts.

The Geological Survey transferred some 30 specimens representing 9 species of fossil fishes and reptiles from the San Juan Basin, N. Mex., including two finely preserved turtles new to science and forming excellent exhibition specimens. The Biological Survey of the Department of Agriculture deposited a fossil turtle from a locality near Imlay, S. Dak., while three casts of fossil reptiles, the more important being reproductions of the type and paratype of the extinct crocodilian form, *Tomistoma americana* Sellards, were received as a gift from Dr. E. H. Sellards, State Geologist of Florida.

The identification, cataloguing and arrangement of the study collections has kept fully abreast with the current additions. The principal work by the preparators of this section was the mounting of the

Indiana mastodon skeleton presented by the Messrs. Pattison, the cleaning of mammal and other remains from the Fort Union beds and the Cumberland cave deposit in Maryland, and the working out and assembling of carnivorous dinosaur material. The skeleton of *Allosaurus fragilis*, mentioned in the last report, was entirely freed from the matrix. The vertebral column, complete from the skull to the base of the tail, many caudal vertebrae and ribs, the pelvis, and fore and hind limbs, in addition to the greater part of the skull, make it one of the most perfect specimens of the animal known. The skull and jaws have been skillfully restored, articulated and mounted, and the skeleton also will be prepared for exhibition at an early opportunity. Considerable portions of the skeletons of two other individuals belonging to the genus *Allosaurus* were also obtained in working over the same material. The restoration of the missing and broken bones of the *Stegosaurus* permits the prompt mounting of this specimen.

Mr. Charles W. Gilmore, assistant curator in charge of fossil reptiles, submitted for publication by the Geological Survey an account of the "Vertebrate faunas of the Ojo Alamo, Kirtland and Fruitland formations," and for the Museum a paper entitled "Description of two new species of fossil turtles from the Lance formation of Wyoming." Progress was also made with his monographic studies on the carnivorous dinosaur material in the Museum, which is expected to occupy his attention for at least a year or two more. Mr. James W. Gidley, assistant curator in charge of fossil mammals, continued with Mr. Gerrit S. Miller, jr., their joint revision of the recent and fossil rodents. He likewise proceeded with his studies of the Cumberland cave fauna and the Fort Union mammals, and completed two papers, entitled "The creodont genus *Claenodon*, with descriptions of new species" and "Notice of a new Paleocene mammal, a possible relative of the *Titanotheres*." Dr. O. P. Hay continued, under the auspices of the Carnegie Institution of Washington, his work on the vertebrate life of the North American Pleistocene period, and Dr. R. W. Shufeldt made use of the fossil bird material in connection with his studies.

Paleobotany.—The Geological Survey made important transfers of fossil plants, consisting partly of 200 specimens, representing 40 forms, from the San Juan Basin, northwestern New Mexico, including types and figured material described by Dr. F. H. Knowlton for a forthcoming Professional Paper; and of about 100 specimens from the Fox Hills formation, Greeley quadrangle, Colorado, also the subject of a paper by Dr. Knowlton published as Professional Paper 98-H. Dr. Wherry, of the division of mineralogy and petrology, presented two specimens representing two new species from the Triassic of Pennsylvania, which are of special value in view of the extreme rarity of plants from that horizon and locality.

The classification and arrangement of the paleobotanical collections, as outlined in the last report, was continued, and for a fair proportion of the Tertiary material it was completed. The identification and elimination from the study series of all duplicates has also been nearly accomplished. An important innovation was the substitution of a fireproof seaweed matting for cotton as a padding under the study specimens, which occupy some 4,000 standard drawers stored in the attic. This change has been made in view of the fact that many of the fossil plants are contained in pyritiferous shale, which, upon exposure to the air, decomposes to a powder, and while cotton serves admirably for the purpose, its elimination seemed advisable on account of its inflammability.

Dr. Knowlton continued his studies on Mesozoic and Cenozoic plants, devoting most of his time to the preparation of scientific papers, three of which were published during the year, two will appear in the Proceedings of the Museum, and a sixth, entitled "Flora of the Chaco and Kirtland formations in San Juan County, New Mexico," will be issued as part of a forthcoming Professional Paper of the Geological Survey. Dr. Wherry contributed a descriptive account of two new species of fossil plants from the Triassic of Pennsylvania.

The collections were utilized by Dr. G. R. Wieland, of Yale University, in connection with his work on fossil cycads for the Carnegie Institution of Washington; by Mr. E. W. Berry, of Johns Hopkins University, who continued his researches on Tertiary plants; and by Dr. Arthur Hollick, of the New York Botanical Garden, in continuation of his monograph on the Mesozoic plants of Alaska. They were also consulted by an exceptionally large number of specialists in attendance upon the many scientific meetings of the year. Among these visitors were representatives of the New York State Museum, the American Museum of Natural History, the Carnegie Museum, the Canadian Geological Survey; Yale, Princeton, Johns Hopkins and various State universities; Dr. A. F. Foerste, of Dayton, Ohio; Mr. Frank Anderson, of the California Academy of Sciences; and Dr. E. H. Sellards, State Geologist of Florida. Dr. Anselm Windhausen, of the Geological Survey of Argentina, and Prof. N. Gist Gee, of the University of Soochow, China, spent several days studying the general arrangement of the collections and the methods of work in this as in other divisions of the department.

Exhibition collections.—To the exhibition collection in systematic geology the following important additions were made, namely, a selected series of rocks illustrating the granite pegmatites of the eastern United States and their associated minerals; a remarkably fine series of crystal masses of rhodonite, from Franklin Furnace, N. J., the gift of Dr. W. S. Disbrow; an excellent large, polished specimen of copper conglomerate from Houghton County, Mich.; series of

tungsten ores from Idaho, gold and platinum ores from Nevada, potash alum from Esmeralda County, Nev., and ores of fluorine, phosphorus, chromium and zirconium from various localities; several large specimens of siliceous and calcareous sinter from the Yellowstone National Park, ten transparencies of characteristic scenery and a relief map colored to show the geology, all forming part of an extensive exhibit relating to this park, the preparation of which is now in progress. A rearrangement of the collections of meteorites, of oils and of the minerals used in steel making was taken up and completed for all except the first mentioned. Eleven relief maps, which have been in the department for many years, were renovated and their installation only awaits the construction of the necessary tables.

In the exhibition series of minerals certain inferior specimens were replaced by better ones recently received, and the case containing models of precious stones and artificial gems, noted in the last report as incomplete, was finished, sufficient specimens for this purpose having been found in the reserve collections. In building up the gem collection, it has been deemed advisable to establish a small series independent of the Isaac Lea Collection, in which to exhibit the rough material and cut stones side by side. It is proving very popular and is of high educational value.

The collections in invertebrate paleontology were also improved by the substitution of well preserved material for other withdrawn, the installation of series of fossil worms, ostracods and cirripeds, and the introduction of over 200 sketches in white on a black background depicting the structure of fossil forms, as it has been observed that the average visitor pays more attention to exhibits of fossils when they are supplemented by illustrations. No changes of importance were made in the hall of vertebrates other than those made necessary by the installation of the mastodon skeleton, which constitutes one of its most conspicuous and interesting features. This was placed on the north side of the zeuglodon in the position formerly occupied by the female mastodon, which has been moved to the south side. Two specimens were added to the exhibit of fossil turtles.

A more open and effective appearance has been given to the paleobotanical hall by the removal of the partitions or screens in several of the cases, and a rearrangement and careful selection of specimens. Plans are under way for increasing the interest of the collection by adding some large exhibits showing the occurrence of fossil plants in nature. The Carboniferous tree stump, with a spread of 10 feet, including the roots, secured last year was installed at the entrance to the hall. This, in connection with the very large fine *Lepidodendron* representing the upper part of a similar fossil tree, makes an excellent introduction to the paleobotanic series.

Explorations.—The expedition of Secretary Walcott to the Yellowstone National Park in the summer of 1915 resulted in the acquisition of a large and valuable collection of rocks and other geological materials. The primary object of the trip was the study of the hot spring deposits, of which a very extensive and complete series was obtained, besides a considerable quantity of sulphurs and volcanic rocks, which will enable the department to expand the existing collections to a full representation of the geology and mineralogy of that interesting region. This exploration was also extended to the Belt Mountains, where over a ton in weight of specimens of certain supposed fossil algal remains was collected from the pre-Cambrian rocks.

Dr. J. P. Iddings, during his explorations among the islands of the Indian and southern Pacific Oceans, obtained many specimens of volcanic rocks which will add very materially to the Museum collections, while the head curator, Dr. Merrill, visiting central Colorado during the summer of 1915 under private auspices, secured an interesting series of verde antique marbles, illustrating their derivation through the metamorphism of beds of siliceous dolomite.

Dr. W. T. Schaller, of the Geological Survey, and Dr. J. E. Pogue, of Northwestern University, were each given small grants to enable them to collect specimens of rocks and minerals illustrating the gem-bearing pegmatites of southern California and the emerald localities of Colombia, respectively, and from both of these important additions were received.

Dr. Wherry, assistant curator, made three short collecting trips. On the first he obtained a series of specimens bearing on the occurrence of glauberite, a large number of remarkable diffusion rings in red shale, and a few examples of the rare mineral chloropal. The second was in company with Dr. Schaller to certain gem and mica localities in Pennsylvania, where a number of specimens were secured, and the third to a newly discovered cave near Lurich, Va., where some unusual stalactitic formations were procured.

Mr. Frank Springer's private assistant, Mr. Herrick E. Wilson, spent a month of the field season of 1915 collecting echinoderms in the Niagaran formations of southeastern Indiana, and he also purchased for Mr. Springer certain collections of crinoids which had been made by others in that region, thereby assembling an exceedingly valuable lot of material. During May and June of 1916, Mr. W. F. Pate was employed by Mr. Springer to procure fossil echinoderms in the Silurian and Devonian of western Tennessee, and although a large number of specimens was not obtained the results were quite satisfactory.

Dr. Bassler and Mr. Resser were detailed in June, 1916, to collect specimens of fossil invertebrates and fossil plants suitable for exhibi-

tion purposes, in the Appalachian and Ohio Valleys, a work which had not been completed at the close of the year.

Through the liberality of a friend, Mr. Benno Alexander was sent with the Koren expedition to the Kolyma River region of northeastern Siberia to search for the remains of large extinct animals. This expedition left Seattle, Wash., in June, 1914, returning in September, 1915. A considerable amount of material was secured, consisting for the most part of disassociated bones, representing a Pleistocene mammalian fauna, of which 8 genera and about 11 species are distinguishable. These include the mammoth, bison, caribou, horse, rhinoceros, musk-ox, wolverine and wolf. Especial interest attaches to this find, as it is the first collection of fossil bones recorded from this region.

A second trip to Indiana for the purpose of completing the work of recovering the bones of the mastodon skeleton, elsewhere described, was made by Mr. Gidley in October. It resulted in securing the last of the missing sections of the vertebral column, several foot bones and other important fragments. Mr. Gidley was also enabled to study the conditions of original deposition of the skeleton. Incidentally he obtained information which led to the recovery of some important parts of the skeleton which had been removed before the National Museum took the matter in hand.

ARTS AND INDUSTRIES.

Textiles, woods, etc.—As noted in previous reports, in reestablishing the division of textiles it was found necessary to place under the same supervision certain other more or less kindred subjects relating to animal and vegetable products if any early progress were to be made in those directions with the very limited means available. One of these, wood technology, was organized as a section near the close of the fiscal year 1915, with an assistant curator in direct charge, and last year the division of medicine, which has lately been without an immediate head, was transferred to the care of the curator of textiles.

The year witnessed much activity in the subject of wood technology, the assembling of important collections from various regions and the formulation of plans for a thoroughly practical and popular exhibition. Efforts will be largely directed toward building up distinctive exhibits in the field of wood production and wood utilization, following the Forest Service classification of primary and secondary wood-using industries, the primary being those in which the raw material is received in the log, the secondary those in which manufacture begins with wood in other forms, such as brush back blanks, match blocks, chair stock, etc. As the present space will obviously not permit of the entire classification being covered in more than a very superficial way, operations will be restricted in the beginning to show-

ing such of the more important industries as can be accommodated with comprehensively worked up exhibits. Fortunately, the exhibits thus far obtained, with such others as have been positively provided for, represent a considerable variety of wood-using industries. The use of models will be made a prominent feature of the exhibition, among the subjects contemplated to be illustrated in this manner in the near future being the production of turpentine, the methods of logging in the spruce pulp regions, the manufacture of pulp and paper, the processes of impregnating timber to prevent decay, and the various types of mechanical logging machinery employed in the five typical lumber regions of the country.

It is considered especially important to bring together a comprehensive authentically identified series of foreign as well as domestic commercial woods. The importation from many parts of the world is extensive, but there is so much confusion regarding names and designations as to produce many provoking difficulties in connection with the trade. Such samples as are required for this purpose can not be obtained from the markets, but must be secured from original sources where they have been examined and determined by reliable scientific authorities.

In the matter of textiles many valuable and instructive accessions were obtained. Probably the most important was one received through the generosity of the American Thread Co., of New York, consisting of an extensive series of specimens and of models and sections of machines illustrating the manufacture of cotton threads, including photographs specially taken in the mills for the Museum of each machine concerned in their making, and a large number of specimens to show the many forms, sizes and packages in which threads are placed on the market. Each important machine connected with the production of a spool of such thread is represented by a photograph and a model or full-sized section of the machine itself. This material replaces a similar exhibit supplied the Museum in 1885 by the Willimantic Linen Thread Co., now a part of the American Thread Co.

Noteworthy among the additions to the exposition of methods of decorating textiles were a model 416-hook, double lift, single cylinder Jacquard machine, presented by the Crompton & Knowles Loom Works, of Worcester, Mass.; and a smaller 208-hook, single lift, Jacquard machine, contributed by Thomas Halton's Sons, of Philadelphia, which has been equipped with a lead weight attached to each of the neck cords, thus permitting, when the machine is operated, a demonstration of the rise and fall of these cords according to holes punched in the pattern cards. The Museum was again indebted to the Kursheedt Manufacturing Co., of New York, for specimens further representing the operation and work of the em-

broidery automats furnished by that company the previous year. Messrs. Cheney Brothers, of South Manchester, Conn., added to their already extensive gifts a collection of photographic reproductions of views relating to the manufacture of silk fabrics, and a series of 25 specimens illustrating the designing, weaving and printing of silk upholstery and drapery fabrics. A type of fabric decoration not heretofore shown in the collections was obtained for exhibition by the purchase from the Central Commission of the Netherlands and Colonies, Panama-Pacific International Exposition, of 22 specimens of Javanese batik work done on cotton and silk, and several enlarged photographs of the process employed. This is essentially a method of dyeing fabrics with successive colors by protecting portions of the cloth with a film of wax. A modification of this art with the use of improved tools is now being taught in some of the handicraft schools of this country.

From the Progressive Silk Finishing Co., of Hoboken, N. J., were received 13 samples of various patterns of moiré silks, which will form the nucleus of a case planned to illustrate this interesting method of decorating fabrics; while to the Japan Exposition Society, Panama-Pacific International Exposition, the division was indebted for two specimens representing the successive stages in the production of painted cut velvet, called by the Japanese "Yuzen Birodo." These latter are of value in showing the fabric as woven and before the wires over which the loops are formed have been withdrawn. The National Silk Dyeing Co., of Paterson, N. J., added 53 samples of silk skein-dyeing and silk piece-dyeing and printing to the already extensive series previously contributed. Messrs. Johnson, Cowdin & Co., of New York, prepared as a part of their exhibition at the Panama-Pacific International Exposition an elaborate design, called the "State Flower Bouquet," for a wide silk grosgrain ribbon. The original of the design for this interesting example of weaving was presented by the manufacturers, with a sample of the finished ribbon. Mr. Theodore Freund, through the Decorus Manufacturing Co., of New York, contributed an unusual scarf, spray-printed by means of the "airograph" or air brush.

Among the valuable exhibits donated by the commissions of several foreign governments to the Panama-Pacific Exposition was a collection of 100 commercial Japanese fabrics assembled and shown by the Bureau of Commerce and Industry, Department of Agriculture and Commerce of Japan, and presented by His Imperial Japanese Majesty's Commission. It includes many interesting examples of fabrics not produced in this country, particularly those ornamented by tying and dyeing, and with the use of specially printed yarns.

The collections of upholstery and drapery fabrics and allied textiles were greatly improved by the gift of new material by several American firms. The Orinoka Mills, of Philadelphia, contributed 18 specimens of silk, cotton, wool and mixed fabrics; Messrs. Sidney Blumenthal & Co., Inc., of New York, presented 13 samples of draperies and furniture coverings, and a beautiful Fortuna silk plush portiere; while, through the friendly offices of Mr. N. W. Doorly, eastern manager of "Good Furniture," the Museum is indebted to the Moss Rose Manufacturing Co., of Philadelphia, and to Messrs. Elms & Sellon and Mr. W. E. Rosenthal, of New York, for numerous examples of drapery and upholstery fabrics which were exhibited during January at the Avery Architectural Library of Columbia University. Messrs. Marshall Field & Co., of Chicago, added to the collection of printed cotton drapery fabrics contributed by them the previous year 26 examples of new designs prepared for the fall trade of 1916, and sent to the Museum several months in advance of their being placed on sale. The most of these represent a departure from the "realistic effects" so long used for this class of fabrics, and were originated by pupils of the Chicago School of Applied and Normal Art. From Mr. Edward Maag were received 24 samples of upholstery and drapery trimmings manufactured by him in New York.

Several American manufacturers have assisted in keeping the fabric collections of this division supplied with novelties and with new types and designs of dress fabrics as soon as they have been brought out. Among this group of cooperators should be mentioned the Valentine & Bentley Silk Co., of New York, which furnished 5 samples of printed "Mayflower" silks; Messrs. H. R. Mallinson & Co., of New York, 7 samples of "Pussy Willow" taffeta printed in State Flower designs; the Oriental Silk Printing Co., of Haledon, N. J., 5 samples of printed novelty silks; the Sussex Print Works, of Newton, N. J., 4 samples of silk dress goods printed with designs adapted from the crest of the Bolling family; Messrs. A. H. Strauss & Co., of New York, a sample of printed lining silk, the design of which is entitled "The Suffrage Victory"; Messrs. William Alford & Sons, of New York, a sample of yarn-dyed novelty silk called "Puppy Skin"; and Mr. William M. Poz, of New York, a specimen of pure-dye silk dress goods named "Silkskin."

Through the generosity of Mr. B. P. Rideing, of New York, the Museum received 7 examples of novelty coatings and pile fabrics, especially brought out to meet the demands for skating costumes so much in vogue during the past winter. The Victory Silk Co., of Paterson, N. J., presented 7 samples of their men's silk suitings, designed to supply a call for new types of light-weight all-silk fabrics.

The collection of ribbons was increased by 10 samples of apple green silk, including warp-printed, brocaded, moiré, grosgrain, satin

and taffeta weaves, the gift of Messrs. Smith & Kaufmann, of New York. Specimens of machine-embroidered net flouncings and of Plauen metal lace, showing the use of tinsel threads in the manufacture of dress trimmings, were secured for the lace and embroidery section through the kindness of the Einstein-Wolf Co., of New York. The Quaker Lace Co., Inc., of Philadelphia, added to their previous donation 16 samples of machine-made window laces produced on the Nottingham lace curtain and levers go-through machines. From the Niagara Silk Mills, of North Tonawanda, N. Y., were received 4 samples of knitted tricot and Milanese glove-silk fabrics, dyed and printed in plain and Waldorf stripes.

To Mrs. Frederick Marsh, of Washington, acknowledgments are due for the loan of an old Spanish lace scarf made in Salamanca, showing likenesses of their Catholic Majesties, Ferdinand and Isabella. The gift by Mrs. John Russell Young, of Washington, of an elaborate piece of native embroidery work from Benares, India, two collars done in French hand embroidery, and a pair of tiny gloves knitted in China, made an attractive addition to the collection of artistic needlework. Miss Catherine Brittin Barlow, of Washington, contributed a lady's silk embroidered apron, a good example of modern Chinese needlework.

The Philippine Board for the Panama-Pacific International Exposition, through Mr. Frank L. Crone, director of education for the Philippine Islands, presented a most interesting educational exhibit entitled "Fibers from the growing plants to the finished products," showing some excellent examples of handicraft work done in the Philippine schools. There was also obtained by purchase from the government of the Philippines a collection of specimens illustrating some of the best examples of needlework and basketry done in the Philippine Public Schools, assembled by the Bureau of Education, Department of Public Instruction, at Manila.

The more important accessions other than textiles and woods were as follows: A large number of miscellaneous agricultural products from the Chinese Provinces of Anhui and Kiangsi, presented by The Republic of China Commission to the Panama-Pacific International Exposition, through the Hon. Chen Chi, commissioner; a selection of teas, coffee, spices, resins, drugs and miscellaneous agricultural products from its extensive exhibit at San Francisco, contributed by the Central Commission of the Netherlands and Colonies to the same exposition, through Mr. F. L. W. MacDonald, acting commissioner of the Netherlands East Indies; and 28 specimens of named varieties of cereals in the sheaf and 5 large photographs framed in Australian woods, furnished by the Australian Commission, through Mr. George Oughton, secretary. To the Oregon State Commission, through Mr. Oscar E. Freytag, chief of agriculture, the Museum is indebted for

an excellent specimen of the teasel plant as grown in the field and a sheaf of Oregon flax in the seed.

His Imperial Japanese Majesty's Commission to the Panama-Pacific Exposition presented, through Mr. H. Yamawaki, commissioner general, a beautiful lacquered tray made by students in the Technical School of Ishikawa, specimens of whalebone and whale ivory from the Imperial Fishery Training School, a large model showing methods of fishing and fishing boats used in Japan, from the Bureau of Fisheries, and a number of samples of agricultural products shown by various exhibitors. From the Japanese Exposition Society, acting for the Japanese manufacturers and other non-official exhibitors at this exposition, there were obtained by purchase samples of wood splints, chip braids and mattings, a pearl shell containing a culture pearl in situ, and 10 specimens of long green timber bamboos such as are used for building construction in Japan.

Dr. Riley D. Moore, of the Museum staff, lent a most interesting collection of walrus and mammoth ivory gathered by him in Alaska. This had been worked up by the Eskimos for jewelry mountings from pieces of fossil ivory and broken tusks dug from the sands along the beach. From Messrs. H. Liebes & Co., of San Francisco, Cal., were received as a gift 8 mink skins illustrating methods of forming furs for articles of wear, each specimen showing one half of the skin natural size, and the other half elongated and shaped for some particular use by an intricate method of cutting and sewing. The estate of Mrs. Fannie Brown Putnam, through Miss Fannie A. Morrison, executrix, of Nashua, N. H., contributed 23 samples of human hair work made by Mrs. Putnam between 1870-1880, which, with the examples already in the Museum, furnish a very good representation of this almost lost art.

An important addition to the section of *materia medica*, a gift from the Lederle Antitoxin Laboratories, Pearl River, N. Y., consisted of a collection of typical packages of manufactured biological products, including antitoxins, serums and vaccines. To Messrs. Eli Lilly & Co., of Indianapolis, Ind., acknowledgments are due for a series of empty gelatin capsules in various colors and sizes, and a sample of the sheet gelatin used in their manufacture. Through the generosity of the Commissariat Général du Gouvernement Français à l'Exposition Universelle de San Francisco the Museum was able to obtain several interesting examples of pharmaceutical products and a series of by-products from the abattoirs of the city of Paris.

The additions to the section of wood technology aggregated 689 specimens, received in 27 accessions, and having been obtained principally for exhibition purposes, they are as a whole of educational

rather than scientific value. One notable exception in this respect is presented by a collection of Philippine commercial woods purchased from the Philippine Board of the Panama-Pacific International Exposition, which consists of 110 pieces in board form, each 6 feet long and from 6 to 30 inches wide. The work of assembling and identifying these was done by the Philippine Bureau of Forestry and it is felt that the data supplied regarding them are of a reliable scientific nature. Every commercial wood of importance in the Islands is included, some in duplicate to illustrate the different characteristics of grain and figure possessed by the same species. In all, 29 botanical families and 85 species are represented. The boards have been surface-finished and are to be installed against the east wall of the court allotted to the section, where they will make a striking display.

The Comision Argentina of the same exposition, through the vice commissioner general, Mr. Enrique M. Nelson, presented 16 pieces of the important commercial woods of that country, representing 15 species. They were collected by the Forest Service of the Argentine Republic and are accompanied by thoroughly accurate information. The specimens are also in board form, from 4 to 10 feet long, and surface-finished.

As a gift from the Astoria Veneer Mills and Dock Co., of Long Island City, N. Y., were received 32 samples of foreign woods highly prized for the manufacture of veneers and for cabinet and furniture work. Among them are the important varieties which are imported into this country under the trade name of mahogany. It is felt that a collection of commercial mahoganies, aside from its general interest and value, will be found useful to the Government in the purchase of reliable material. All of the specimens with one exception are over 6 feet in length; in the shape of boards, they have been surface-finished in the Museum shops.

The California Redwood Association contributed 38 specimens of redwood lumber, representing a large variety of patterns produced by the redwood lumber manufacturers and also some of their better grades of plain lumber. Included in the gift is a handsome, 6-foot, burlled redwood board about 25 inches wide, and a plank 13 feet long and over 4½ feet wide. These two specimens well illustrate the exceptional beauty and large size furnished by this valuable wood, long popular for a multitude of purposes on the west coast and in recent years commonly encountered in the eastern markets.

A noteworthy and instructive exhibit of the naval stores industry was collected for the Museum by the U. S. Forest Service, through Mr. Inman F. Eldredge, supervisor of the Florida National Forest. Three butt sections of longleaf pine from a commercial turpentine orchard, illustrating the manner in which gum for the distillation

of turpentine is obtained by the box, the cup and gutter, and the Forest Service methods of turpentineing, respectively, are particularly interesting in that they show clearly the progressive improvement evolved in this part of the industry from the former wasteful and destructive process to the modern economical method of the cup and gutter, and that practiced by the Forest Service in the forests under its supervision. Samples of gum, scrape, turpentine and rosin, and examples of the tools used in scarifying the trees form part of the exhibit. Constructed in the Museum shops for installation with these specimens is a model of a typical turpentine still such as is frequently used throughout the longleaf pine belt. The still, with its outbuildings, is in a setting typical of the region, and is surrounded by longleaf pine trees, some of which are boxed and others provided with cups and gutters in accordance with the usual practice. Though not an actual reproduction of an existing still it is sufficiently accurate for its purpose.

From the Stamford Manufacturing Co., of Stamford, Conn., were received 4 specimens of dyewoods in the log, and a series of extracts made from them, logwood, fustic, Brazil wood and quebracho, the latter important chiefly for its tannin extract, being represented. Instructive series of specimens showing the materials and successive stages in the manufacture of the several articles named were presented as follows: A tennis racket, of white ash, walnut and Mexican cedar, and a golf driver, with the head of persimmon and the shaft of hickory, by the A. G. Spalding Brothers Manufacturing Co., of Chicopee, Mass.; bowling balls from *lignum vitae* and tenpins and duckpins from hard maple, by the Brunswick-Balke-Collender Co., of New York; cigar boxes from Spanish cedar, by the Henry H. Sheip Manufacturing Co., of Philadelphia; and tobacco pipes from western red gum, by Mr. William Keffer, of the same city.

An excellent beginning was made toward covering the great match-making industry through the gift from the Diamond Match Co., of New York, of a comprehensive exhibit illustrating the manufacture of non-poisonous matches, from the "blank" block of white pine to the finished match, and also the steps in the making of paper box containers and the chemicals used in impregnating and treating the match sticks.

The Hawaii Hardwood Co., Ltd., of Honolulu and Pahoia, contributed one board each of koa and ohia woods, 6 feet in length. The specimen of koa is a beautiful example of figure frequently found in this highly prized cabinet wood. The Gum Lumber Manufacturers' Association, of Memphis, Tenn., presented a fine large board of red gum; The Louisville Veneer Mills and this Association, a finished panel of quarter-sawed red gum veneer, figured and matched for design; and the Hardwood Products Co., of Neenah, Wis., through

the same Association, an excellent example of red gum, made into a built-up model door. Four large specimen boards, one each of Honduran mahogany, yellow poplar, white oak and black cherry, all over 10 feet long, were purchased.

An interesting exhibit from the Novelty Turning Co., of Norway, Me., illustrates the various stages in the manufacture of a sadiron handle made of white birch; while a similar one from the National Handle Co., of Cleveland, Ohio, covers the making of a pitchfork handle, from the raw billet of ash to the finished article. The Ox Fibre Brush Co., of Frederick, Md., presented a very complete and comprehensive series of specimens showing the processes and materials employed in the brush industry.

It was necessary to rearrange the floor cases in the east south textile range several times during the year to permit the placing of special exhibits and to accommodate a number of additional cases, besides providing space for recent acquisitions of lace and needlework. Certain changes in the south hall resulted in marked improvement. These included a new installation of the exhibits of raw, thrown and spun silk, the spun silk series being transferred to a case painted dead black inside to conform to the other cases illustrating silk processes. New exhibits relating to warp-printing, wax resist dyeing and the manufacture of cotton thread were added. A reinstallation of several sections of the wall case on the gallery of the southwest court with new material was accomplished, and a beginning was made with new exhibits on the north side of the gallery of the southeast court. The latter gallery was repainted, and the old furnishings left by the department of geology were replaced by racks and shelves. As the space assigned to textiles is becoming crowded, it has been found necessary to remove many specimens to storage as new exhibit material is received, and also to abridge the quantity of material shown in several of the series. The arrangement of the reference collection of small samples of named fabrics is progressing steadily. These samples are mounted on standard letter-size cards and filed in regular office filing cases.

The floor area of the southeast court, which has been allotted to the exhibition collection in wood technology, was in course of preparation for that purpose at the close of the year, and some progress had been made in the arrangements for installation, much of the larger material already acquired having been assembled there. While this space is quite inadequate for representing the wood industries in all of their ramifications, it is felt that a beginning can there be made sufficiently diversified and instructive to prove the value of such an exposition and justify measures for securing its expansion. Experiments were also undertaken looking toward methods of installation, which, in view of the nature of most of the

objects, and especially the large and varying size and shape of wood samples, must differ in many respects from those employed in other branches of the Museum, and some seemingly satisfactory results were obtained. Fixtures conforming to these needs were being constructed, and the work of arrangement was expected to proceed from the beginning of the current year.

Progress was made in the compilation of terms and definitions for the textile glossary, begun in 1913, which has already proved very useful in cataloguing new materials received for exhibition, as well as in answering the numerous requests from correspondents for definitions and identifications of fabrics. It is hoped that this work may, before long, be put into shape for publication.

The curator, Mr. F. L. Lewton, continued his investigations of the botanical relationships of the species of cotton and the history of their introduction into the United States; and also his researches, commenced several years ago, on the classification, properties and uses of gums and resins, on which subject he has prepared a manuscript for publication. He likewise identified the cottons introduced by the Office of Foreign Seed and Plant Introduction and Distribution of the Department of Agriculture, and collaborated with other members of the Botanical Society of Washington in the preparation of a "Flora of Washington," furnishing the pages dealing with Malvaceae. A paper on "The installation of textile fabrics" was read by him at the eleventh annual meeting of the American Association of Museums, held in Washington in May, 1916. Assistance was rendered from time to time to several Government bureaus and numerous individuals in determining specimens of gums, resins, seeds and fabrics. Many classes and groups of scholars from public and private schools in Washington and its vicinity were given lectures and demonstrations or informal talks by the curator on the textile collections and on spinning and weaving.

From July 31 to September 8, the curator was detailed to the Panama-Pacific International Exposition as assistant representative of the Smithsonian Institution in connection with the Government Exhibit Board. In addition to his regular duties, he was able to give a large amount of time to a study of the exhibits in manufactures and the industrial arts, and by conferences with the commissioners of a number of foreign countries and of several States, as well as with private exhibitors, he was successful in influencing the gift to the Museum of much desirable material. He assisted in the installation of the special loan exhibitions of The American Federation of Arts held during the year, from which 9 valuable textile accessions were secured. Two trips to textile centers also resulted in several of the more important acquisitions of the year. The section of wood technology was likewise greatly benefited by visits

made to several places by Mr. G. de S. Canavarro, assistant curator in charge of that section.

Mineral technology.—As in previous years the efforts of this division were entirely focused on the designing and preparation of exhibits visualizing the technology and economics of the various mineral resource industries. Established with special reference to the enhancement of popular conception regarding these matters, its work has so far wholly tended in the direction of developing an exhibition series which for all the important minerals shall set forth in a manner to be understood by the layman, the conditions of their occurrence in nature, the operations followed for their extraction, the processes of manufacture, and, in fact, all the stages in the history of each from the time of its quarrying until its several products enter into commerce and use.

That the exhibits may accomplish their purpose with the thoroughness demanded by the traditions of the Institution requires that they be comprehensive, embodying every important detail, and yet be so readily interpreted as clearly to serve the object of popular education. In order to faithfully carry out this intention it is first necessary in each instance to reach a perfect understanding of every phase of the industry, even though only typical illustrations may finally prove feasible, and to plan for the nature and extent of the demonstration. This takes time, and even more time is requisite for the assembling of the exhibit, especially when the main part of the demonstration must be effected through the instrumentality of models, this form of illustration being always the most effective and instructive when it can be used, but in all cases it has to be supplemented by other features. Flat graphic representations, including illuminated photographic reproductions, are among these, but there is nearly always demanded a more or less extensive series of specimens, not so much of the raw materials as of the products derived not only as the ultimate resultatives but also those of the side processes, as in the many known instances connected with coal.

In this work the Museum has received hearty cooperation from many of the principal producers of the country, some of whom have actually furnished a greater or less part of any given exhibit, while others have supplied the means and the plans for carrying out the scheme of presentation of their particular industry. In a few directions, however, all efforts to enlist collaboration have so far failed, with the result that certain interests of the greatest importance are not only not represented, but have received no encouragement from without. In its purpose to bring about an educational exhibit which shall present typical conditions, and treat of them comprehensively and exhaustively, not only is it expected to enlighten the public generally but also to place the people in closer and more appre-

ciative relations with the industries which are so fully linked with their welfare, and the industries themselves would seem to have as much to gain by these efforts as the public. In fact, the Museum display can not be considered apart from the industries themselves, on whose continued support depends their maintenance and their further development with the advance in improvement of methods and products.

Progress has also been hindered by the inadequacy of the funds available on the part of the Museum to secure the amount of skilled assistance necessary to take full advantage of the opportunities, and yet comparatively little additional means would be required to bring about a condition much more commensurate with the importance of the subject.

Numerically, the collection is not expected ever to be large, though from the character of the presentation of topics it must naturally cover considerable space. Its assembling is a matter of selective judgment, and the lesson will be best given when in a form to be most readily comprehended. Circumstances have so far prevented the preparation and issuance of descriptive matter on the exhibition, which is intended to be taken up separately for each mineral product, and which, using the exhibit as the basis of the theme, will cover succinctly all phases of the industry, a method of disseminating its teachings the value of which must be apparent to all. Even though still lacking in the presentation of a number of the important mineral industries, and more or less incomplete in those which are represented, it is believed that the division's efforts have already resulted in an exhibition which is well worthy of consideration and may be studied with great profit.

Among the accessions of the year, which in the aggregate exceeded in value for the purposes of the division those of any previous year, six were of special importance. Prominent in this group is one constituting a visualized treatise on the origin, occurrence, treatment and uses of the asphaltic bitumens. It will shortly be supplemented by a number of additional features under preparation, but as it stands it comprises a model of Trinidad Asphalt Lake and its environs, a series of 14 colored transparencies 16 by 24 inches and upward, 8 photographic enlargements measuring about 4 by 6 feet, and a complement of specimens typifying the different forms of asphalt occurrence and the useful products prepared therefrom. The model occupies a floor space of 120 square feet and is a masterpiece of realism in the faithfulness of its depiction of actual conditions. The exhibit in its entirety is the gift of the Barber Asphalt Paving Company.

An addition which, when fully installed, will be surpassed among the year's contributions only by the asphalt exhibit, is a complete

ore stope removed bodily, ore faces, timbering, chute, manway and all accessories, from the Copper Queen Mine at Bisbee, Ariz., the gift of Phelps, Dodge & Co., of New York. The third accession to be mentioned is a model representing the lay-out of a Portland cement plant and the sequence of operations connected with the manufacture of that most important commodity, from plans provided by the Atlas Portland Cement Co. A significant acquisition consisted of an industrial series covering the occurrence and uses of natural graphite, among the individual specimens being a very remarkable block of pure natural graphite weighing 250 pounds.

Received by transfer from the Geological Survey were three models, previously exhibited at the Panama-Pacific International Exposition, one of which reproduces the unique method of mining placer gravel for gold in the frozen North by a system of underground drifting or tunnelling bed rock, with the ground thawed out in immediate advance of the tunnel by means of steam. Another valuable contribution to the gold exhibit, presented by the Pacific Tank & Pipe Co., of San Francisco, is a model of a cyanide leaching plant showing admirably the method commonly employed in the extraction of gold from its ores where the metal does not lend itself to simpler and more direct processes for its segregation.

During the year the mica, asbestos, graphite and Solvay Process soda exhibits were brought to completion, and the gypsum exhibit nearly so. The generous contributions from the Barber Asphalt Paving Co. permitted consistent progress in the direction of securing a thoroughly satisfactory bitumen exhibit as an event of the near future; and the good offices of the Atlantic Refining Co. resulted in the assembling of a mineral oil exhibit, as did also those of the Atlas Portland Cement Co. with reference to Portland cement. Both of these include models on a comprehensive scale whose construction in the division represents achievements of the year. With the glass and coal products exhibits, both of which were in an advanced state of development at the outset of the year, unfavorable circumstances prevented any progress. The efforts made to secure materials for an appreciative comprehension of the iron and steel industries also proved unsuccessful. On the other hand, with regard to copper, which has given rise to an industrial field second only to that of iron and steel in magnitude in the metallurgical group, the producers have welcomed the opportunity of helping the public to an adequate acquaintanceship with what is being done toward maintaining the supply of this metal. Backed by this public-spirited attitude, the division is enabled to announce the commencement of work on a copper exhibit which will reflect alike to the credit of the Museum and of the industry.

Presentations of the occurrence, mining and metallurgy of zinc and lead, and of the properties and uses of these metals, which it was hoped would be furnished during the year, still remain unfinished. The delay in the case of lead was caused by successive enlargements in the scope of the exhibit, which has been under preparation for a year and a half. Another exhibit the acquisition of which has also been delayed is a working model of salt works. One made by the donors, the Worcester Salt Co., and intended to be given to the Museum, took the grand prize at the Panama-Pacific International Exposition, but, falling short of the ideas entertained by the president of the company, Mr. Lorenzo Benedict, the plans were redrawn and work started on a new model which, in addition to reproducing in miniature the procedure of salt mining and refining, will constitute a most remarkable example of mechanical ingenuity executed by the designer, Mr. F. W. Wood.

Following is a brief general review of the exhibits completed and in progress, and to some extent of those contemplated, in the four halls of the division, which comprise the entire floor space of the southwestern quarter of the older Museum building. The west hall, opening from the central rotunda, with an area of about 6,300 square feet, is assigned to the exhibits covering the metals gold, silver, copper and tin. Of the last named there is a relatively complete presentation of the known sources to which the world may look for its supply of this important metal, the mode of occurrence typical of the ore, and the procedure involved in the extraction of the metal, together with the present economic situation with reference to tin in the United States. Of gold and silver there is yet little to be seen, though a very important special type of gold mining, that of placer working in the frozen ground of Alaska, is well portrayed in a realistic model. Conspicuously attracting attention is a large model in process of construction, which marks the beginning of work on the copper series, and in its complete condition will faithfully depict the operations of the Utah Copper Co. in Bingham Canyon, Utah, which in engineering magnitude and economic significance represent one of the greatest achievements of modern civilization.

The range leading south from the above hall on the west side of the building, containing over 3,000 square feet of space, is devoted to glass manufacture, abrasives, lead and zinc. Most prominent on entering is a glass works exhibit showing the two standard glass-making furnaces, ingeniously illuminated from within to represent them in full blast. With the help of lay figures, the various successive steps in the manufacture of typical glassware articles have been visualized so adequately that descriptive labeling is superfluous, and the visitor sees exactly what he would find were he to visit some large

glass-making establishment. Moreover, he views the layout much more comprehensively because of the fact that he is able to grasp the entire procedure in proper relationships, rather than as a confusion of apparently independent units. A series of specimens by their selection and arrangement indicate the composition of the different commoner varieties of glassware, the various stages in their manufacture, and the status of the industry in the United States.

The value of abrasives for sharpening cutting implements is a matter of universal knowledge, but relatively few people are fully aware of the part they play in the ever-widening circle of requirements. In this respect, the exhibit of abrasives, both natural and artificial, is apt to prove a revelation to the visitor as he turns to it from the model glass factory. Consisting of both specimens and illustrations, it aims to familiarize the layman with the many types of abrading materials and to teach that what is adapted to one purpose may be wholly inefficient for another. Without abrasives, not only would keenness of cutting edges be unknown, but so also would machinery, and without present-day refinements in abrasive preparation, the refinements of machine efficiency would suffer proportionately. As before explained, the lead and zinc exhibits are not yet completed.

The third hall, also a range on the south side of the building, with over 4,450 square feet of area, is allotted to the non-metallic minerals, notably the cement-lime-plaster series, the salines, bitumens and mineral oils, together with asbestos, mica and sulphur. The world is sometimes referred to as now living in a cement age, and considering the part played by cement in road building, bridge construction and structural work in general, with the progressive elimination of the lumber availabilities, the allusion is not altogether without foundation. Moreover, except for wood, nothing enters more intimately into the fabric of life comforts than do cement, lime and plaster, and it is not only interesting, but of vital importance that the householder should know something of the properties possessed by the various members of this group. Three carefully constructed models visualizing the occurrence of raw materials and the manufacturing process involved in the preparation of each, accompanied by specimens, serve to indicate the relative desirabilities for use, especially around the home, though the illustration of this subject as planned is still incomplete.

The bitumens, which are all important in connection with the construction and maintenance of the country's highways, are represented by an exhibit which serves to explain to the visitor just what bitumen is, in what different guises it occurs naturally, or is prepared artificially, what its properties are, to what uses it has been put, and

the relative value of the resultant products. A model of a portion of Trinidad Island, containing the famous Pitch Lake, which is America's chief source of natural asphalt, as well as a most remarkable natural scenic wonder, affords a faithful reproduction in every detail of form and color.

Everyone is interested more or less directly in gasoline and in the various other refinery products from petroleum, and a comprehensive mineral oil exhibit must therefore carry an important lesson. Such an exhibit is under preparation, but at present the visitor will see only a model showing the several conditions under which oil accumulates in pools beneath the earth's surface.

The salt exhibit visualizes the complete history of this ever-present article of food on the dining table. But common salt is more than a condiment, as it is the basis for the manufacture of soda and the ever-ramifying products into which sodium compounds enter. In this latter direction lies a very important industrial development, perhaps the most independently and truly American of any of our industries, which is also reproduced with a direct simplicity of representation, in the form of a model showing the geological conditions, the processes of obtaining and utilizing the salt, etc., accompanied by photographic enlargements, and samples of the raw and finished products.

Within the memory of the present generation, practically all of the sulphur used in the United States was imported. To-day, however, not only is essentially all of the consumption supplied from domestic sources, but there is a very considerable annual exportation as well. Sulphur deposits of practically unlimited extent have been known to exist in the Gulf region, but were too deep-seated to be commercially available through the regulation mining methods. The evolution of a process whereby the sulphur might be melted and brought to the surface as a liquid was the cause behind the complete reversal in the economic situation. A model serves to show almost at a glance the occurrence of the Gulf region sulphur deposits, and the workings of the process for which this vitally important change is responsible.

The so-called minor minerals have not so far received even a small part of their just share of consideration from American enterprise. The mention of an oil strike, a gold, silver or copper deposit, or perhaps a coal bed, finds receptive ears, but enthusiasm over a mica-bearing property is an experience unknown in this country. With the constantly widening range of human needs, however, the demand for many of these lesser economic minerals has come to assume significant proportions, and the development of American resources in them would be an extremely valuable asset. Asbestos

and mica are typical illustrations of the case in hand, and the exhibits covering the occurrences, uses and economic aspect of these two minerals, merit more than a passing notice by the visitor.

The country's coal resources constitute the backbone of its economic existence, and accordingly an entire hall, the southwest court of the building, has been devoted to the carbon series. The exhibit starts with a graphic representation showing the evolution of coal from vegetable accumulations through the successive stages of peat and lignite, through the true coal series to anthracite coal and even graphitic anthracite, to the final state of pure graphite. Following this another similar representation brings out the relative amount of coal contained in the various countries of the world and the different States of the United States. Each successive member of the carbon series has the story of its occurrence and economic possibilities as well as realities unfolded in proper sequence. Special stress is laid upon the bituminous coal products, for which the need in the way of an American supply has been grievously apparent during the past few years. While these series are displayed in wall cases along the sides of the court, the floor space is occupied by models illustrating the occurrence and mining of coal. One of these is a working model covering 1,500 square feet, in which all of the operations connected with the mining, grading and cleaning of coal, together with the manufacture of bee-hive coke, are shown in actual progress.

The United States has a number of graphite deposits, but they are of inferior grade, and by far the larger portion of the natural graphite used is imported. Consequently, an important contribution toward the economic independence of the country was made not many years ago, when, as the result of the discovery by Dr. Acheson, an American industry, based on the artificial preparation of graphite, was developed. Graphite, like most other economic minerals, has a much wider range of usage than is generally supposed, and the curtailment of the supply would prove serious in many unexpected directions. The exhibition series, covering both native and synthetic or Acheson graphite, centers around the interest which attaches to graphite manufacture as an American industry, and also around the importance of this industry to human well-being.

DISTRIBUTION AND EXCHANGE OF SPECIMENS.

The distribution of duplicates to educational establishments, mostly to schools and colleges for teaching purposes, aggregated 7,157 specimens, all accurately identified and labeled. Of these 5,740 specimens were comprised in regular series as follows: 19 sets of recent mollusks, containing 174 specimens each; 26 sets of fossil invertebrates, of 42 to 54 specimens each; 12 sets of minerals and ores, of 85 and 86 specimens each; and 1 set of rocks, minerals and ores, of 73 specimens.

The remainder were distributed in 38 special sets and consisted of representatives of all the principal branches of the collections in anthropology, biology, geology and paleontology, including 200 pounds of geological material suitable for blowpipe analysis.

In making exchanges for additions to the national collections 9,368 duplicates were disposed of, classified as follows: Anthropological, 1,665; zoological, 723; botanical, 5,181; geological, 1,146; paleontological, 653.

One hundred and fourteen lots of specimens were sent for study to collaborators of the Museum and other specialists living away from Washington. Besides a large quantity of unsorted material, chiefly of marine invertebrates and fishes, they comprised 9,297 specimens, of which 12 were anthropological, 77 mammals, 347 birds, 75 reptiles and batrachians, 18 fishes, 1,397 insects, 1,805 marine invertebrates, 4,812 plants, 97 minerals, rocks and ores, and 657 fossils.

NATIONAL GALLERY OF ART.

The permanent acquisitions by the National Gallery of Art consisted mainly of additions by Mr. Charles L. Freer to his munificent donation of American and oriental art, and of a large series of drawings by contemporary French artists.

The increment to the Freer collections aggregated 535 items. Abbott H. Thayer, Willard L. Metcalf and J. Francis Murphy, American artists, were each represented by an oil painting; Dwight W. Tryon, by 18 pastels; and Augustus Saint-Gaudens, by the two large bronze sculptures known as the "Library Groups," designed for the Boston Public Library. Among the last works on which this sculptor was engaged and unfinished at his death, these represent "Labor Supported by Science and Art" and "Law Supported by Power and Love." Of oriental paintings there were 13 panels, 55 kakemono, 11 makimono and two albums of 6 and 12 paintings, respectively, all Chinese with the exception of a set of 3 Japanese makimono; of oriental pottery, 32 pieces, of which 29 are Chinese and 2 Corean, while 1 is attributed to Tibet; of bronzes, 292 examples, 288 being Chinese, 3 Corean and 1 Japanese; and of Chinese jades, 51 pieces. Belonging to other classes were stone sculptures and carvings; iron, pewter and silver work; lacquer, glass, ivory, fabrics, etc., all except one of Chinese origin.

Those who have taken interest in the development of this marvelous collection will be pleased to learn, from an announcement by Mr. Freer, that considerable headway has recently been made in the preparation of classified records of the oriental subjects, which entail extensive researches, and the catalogues as they are finished and published will be found to contain important contributions to knowledge. A number of experts have rendered help in the various branches,

and in the Chinese department, which is the most difficult from every point of view, assistance is being sought from experienced students in Europe and the Far East, as well as in America.

Mr. Frederick W. Gookin, of the Art Institute of Chicago, and his assistants have completed the descriptive catalogue of the Japanese paintings; Mr. Langdon Warner, of Boston, has catalogued the Chinese and Japanese wood and stone sculptures; while Mr. Dana H. Carroll, of New York, has catalogued the Mesopotamian and Corean potteries and is now engaged with the Japanese potteries. Mr. Laurence Binyon, of the British Museum, has given important aid in connection with the Chinese paintings, one of which has already been made the subject of a descriptive paper soon to be published. Prof. Edmund Trelawny Backhouse, the eminent English-Chinese scholar, of King's College, London, while helping to secure specimens for the collection, is also deciding difficult problems in Chinese chirography. Dr. Berthold Laufer, of the Field Museum of Natural History, Chicago, who has long been deeply interested in the collection, is contributing splendidly toward the unraveling of knotty questions, while Miss Katharine N. Rhoades is associated in research and descriptive work connected with the different departments.

The most gratifying occurrence of the year in respect not only to the Gallery but to the general interests of the Institution as well consisted in the decision and the taking of the preliminary steps to begin at once the erection of the building for housing the Freer collections. It will be recalled that in the original agreement between Mr. Freer and the Institution, entered into in 1906, these collections were to remain in the donor's possession in Detroit during his life, and only subsequently was the building to be constructed and the collections moved to Washington. The building fund, also provided by Mr. Freer in the same deed of gift, was then fixed at \$500,000, but, owing to the very great increase in the size of the collections and the increased cost of building operations, Mr. Freer later announced that this fund would be doubled.

In the autumn of last year Mr. Freer, waiving the conditions as to time of transfer, expressed the desire that the building construction be taken up forthwith, and in December he turned over to the Institution the sum of \$1,000,000, the amount he had appropriated for this purpose.

Plans for a building adapted to the requirements of the collections and to the objects which the donor has had in view in providing for their maintenance had for some years occupied the attention of Mr. Freer, and finally through the services of Mr. Charles A. Platt, the well-known architect of New York City, a structure has been designed which, suitable in every detail to its purposes, presents an exterior both dignified and pleasing. Measuring 228 feet in frontage

by 185 feet deep, it consists of a single main story above a high basement. The former, having an open central court about 65 feet square, is divided into rooms of different sizes, all of which will be used for exhibition, while the latter contains ample studios, storage rooms, an auditorium and administrative offices.

The site is on the Smithsonian reservation at the corner of 12th and B Streets, southwest, between the Smithsonian building and the east wing of the building of the Department of Agriculture. With its main or north front on the building line adopted for the southern side of the Mall, this new structure will stand some distance back of the Smithsonian building and 73 feet to the westward of its western end. An important advantage of this position is that the height of the adjoining buildings is not such as to dwarf its dimensions, a danger to be anticipated in surroundings not already permanently occupied. The exterior material will be a pink granite, furnishing a color intermediate between the brownish-red sandstone on the one side and the white marble on the other.

The location and the preliminary plans, the former selected by a committee of the Board of Regents of the Smithsonian Institution, received the approval of the Board and of the national Commission of Fine Arts, and at the close of the year matters relating to the details of construction were under consideration. It is expected that about 2½ years from the time of beginning operations will be required for the completion of the building and its preparation for the collections, the installation of which may, therefore, be expected to take place the latter part of 1919 or early in 1920.

In July, 1915, there was received from the Department of State a collection of 82 drawings in pencil, pen, charcoal, chalk, crayon, water color, etc., executed by eminent contemporary French artists and presented to the people of the United States by the citizens of the French Republic as a token of their appreciation of the sympathetic efforts of American citizens toward relieving the distress occasioned by the European War. This notable series of pictures, all of which are inscribed and signed by the artists, has been installed in the alcove at the northern end of the hall containing the paintings of the National Gallery of Art. The list, which follows, discloses the names of many painters, sculptors and engravers, which have long been known to all lovers of art in this country.

LIST OF PICTURES BY CONTEMPORARY FRENCH ARTISTS.

Jules Adler. Figure of an old man. Crayon.

Georgette Agutte (Mme. Marcel Sembat). Ancient castle. Water color.

J.-Francis Auburtin. Children at play. Water color.

- Joseph-Marius Avy. Head of a girl. Charcoal.
- Joseph Bail. Lace making. Crayon.
- Paul-Albert Baudouin. Female figure dressing hair. Red chalk.
- Paul-Albert Besnard. Three heads. Pen.
- Léon Bonnat. Portrait of Ferdinand de Lesseps. Pencil.
- Louis-Henri Bouchard. Carrying the wounded. Pencil.
- Joseph-Félix Bouchor. "Premier drapeau pris à l'ennemi. Drapeau du 132^e d'infanterie, 1^{er} regiment de Basse-Alsace, Strasbourg. Pris le 15 Août, 1914, à St. Blaise par les chasseurs à pied." Water color.
- Mlle. Louise-Catherine Breslau. Schoolgirl. Charcoal.
- Eugène Burnand. Old woman. Crayon.
- Antoine Calbet. Greeting—two female figures. Crayon.
- Carolus Duran. Sketch of a lady. Pencil.
- Jules Cayron. Nurse and patient. Crayon.
- Arsène Chabanian. "Ostend." Water color.
- Paul-Emile Chabas. Young girl. Crayon.
- Louis Charlot. "Le Creusot. Usines Schneider (partie nord)." Water color.
- Jules Chéret. The clown. Crayon.
- Charles Cottet. French peasants. Crayon.
- André Dauchez. Landscape. Pencil.
- Adolphe Déchenaud. Before the crucifix. Crayon.
- Mlle. Angele Delasalle. Landscape. Crayon.
- Désiré-Lucas. Village scene. India ink.
- William Didier-Pouget. Landscape. Pencil and crayon.
- Paul-M. Dupuy. In the trenches, winter. Charcoal and chalk.
- Maurice Eliot. "La Parisienne en 1906." Pencil.
- Hubert-Denis Etcheverry. Homeless victim of war. Crayon.
- François Flameng. "Saint Cloud, 4 Juin, 1906." Water color.
- Charles Fouqueray. In the trenches. Water color.
- Albert Fourié. Female figure and serpent. Red chalk.
- Emile Friant. Head of young girl. Pencil.
- Henri Gervex. Wounded soldier. Pastel.
- Gaston Guignard. Landscape. Monotype.
- Antoine Guillemet. Landscape. Pen with color.
- Oct. Guillonnet. Offerings to the goddess of liberty. Pencil and wash.
- Henri Harpignies. Landscape. Charcoal.
- Antoine Injalbert. Woman's head. Sepia.
- Marie-Joseph Iwill. Venice. Crayon.
- Henri Jacquier. Man's head. Red chalk.
- P.-Franc Lamy. Peasant girl. Water color.
- Léo Laporte-Blairsy. Knitting. Pen.

- J. P. Laurens. A soldier. Charcoal.
- Paul-Albert Laurens. Mother and child and burning village. Charcoal.
- Ernest Laurent. Female head. Charcoal.
- Charles Leandre. Peasant woman. Crayon.
- Albert Lebourg. Sketch of a village. Water color.
- Louis Legrand. Mother and child. Charcoal, tinted.
- Louis-Auguste Lepère. Landscape. Pen, sepia.
- Henri Le Sidaner. Landscape. Wax crayon and pen.
- Lucien Lévy-Dhurmer. Medusa head. Pen.
- Léon-A. Lhermitte. Harvest rest. Charcoal.
- Maurice Lobre. Church interior. Charcoal.
- Ferdinand Luigini. Landscape. Sepia.
- Fernand Maillaud. Mother and child. Crayon.
- Laurent-Honoré Marqueste. Nude figure with mandolin. Crayon.
- Henri Martin. Workman on ladder. Charcoal.
- Maxime Maufra. Landscape. Water color.
- Edgard Maxence. "Primavera." (Head of young girl.) Red chalk.
- Emile-René Ménard. Classical subject. Red chalk.
- Antonin Mercié. Head of young lady. Crayon.
- André Metthey. Vase with dancing figures. Water color.
- Hermann Paul. "Deuil. Laisse moi pleurer; je suis fière quand même." Water color.
- René Piot. "Heureux ceux qui sont morts dans la grande bataille, couchés dessus le sol à la face de Dieu. Heureux ceux qui sont morts dans une juste guerre. Heureux les épis murs et les blés moissonnés." Water color.
- Auguste-Emmanuel Pointelin. Landscape. Charcoal.
- Jean-François Raffaëlli. After the battle. Crayon.
- Paul Renouard. "Inauguration de l'Exposition Internationale de Liège en 1905." Crayon.
- Georges Rochegrosse. Mother and child near burning village. Gouache.
- Auguste Rodin. Figure sketch. Pencil.
- Alfred-Philippe Roll. Figure study. Pastel.
- Ferdinand Roybet. The drummer. Pen.
- Fernand Sabatté. Male figure. Crayon.
- Léon-Daniel Saubès. Head of John the Baptist. Charcoal.
- François Schommer. Seated male figure. Charcoal and chalk.
- Victor-Joseph Ségoffin. Head of man expressive of horror. Charcoal.
- Paul Signac. Landscape. Water color.
- Lucien Simon. Study of female figure. Pencil.
- Guillaume Tronchet. The windmill. Water color.

- Abel Truchet. "Les Poilus." "Quand je pense que j'aspirais à la vie au grand air!" Charcoal.
- Charles-Albert Waltner. Portrait of a lady. Charcoal.
- Jules-Emile Zingg. Harvest scene. Charcoal.
- Henri Zo. "Pour que la liberté continue d'éclairer le Monde!" Charcoal.

To Mrs. E. H. Harriman, of New York, the Gallery was indebted for an oil portrait of Abraham Lincoln, presented on February 12, the anniversary of his birth. It is by Mr. George H. Story and, though recently painted, is based on sketches and notes made by the artist at the White House in 1861 and a photograph of the same period taken in the Washington studio of M. B. Brady. A small bronze bust of Oliver Cromwell, acquired in Paris many years ago, was received as a gift from Mrs. John Russell Young, of Washington. An interesting group of studio properties of the late Eliphalet Fraser Andrews (1835-1915), of Washington, contributed in his memory by Mrs. Andrews, contains many choice old objects mainly acquired during the artist's early residence in Germany, including a fine piece of tapestry, a brass-trimmed bureau from the Archiepiscopal Palace in Cologne, carved chairs, antiques from Nürnberg, ancient armor and arms, chasubles, brocades, and glass.

The number of paintings received on deposit during the year exceeded by more than fifty the number recalled. The 23 paintings by leading contemporary European artists which had been shown at the international exhibition held at the Carnegie Institute, Pittsburgh, Pa., during 1914, and brought to the National Gallery in June, 1915, by The American Federation of Arts, were withdrawn at different times for exhibition elsewhere, but on June 1, 1916, the following were again placed in the Gallery for an indefinite period:

W. Dacres Adams, of London. The Monument.

Edmond Aman-Jean, of Paris. Portrait Group of the Family of Aman-Jean.

S. J. Lamorna Birch, of Penzance, England. October: The River Course near Montreuil-sur-Mer.

Jacques Emile Blanche, of Paris. Anniversary.

Stephen Bosznay, of Budapest. By the River.

Max Clarenbach, of Wittlaer bei Kaiserswerth, Germany. Garden.

Charles Cottet, of Paris. Port of Douarnenez, Brittany.

John Crealock, of London. The Red Sofa.

Sir Alfred East (English, 1849-1913). The Rainbow.

Hermann Göhler, of Karlsruhe, Germany. Schloss Monrépos.

Julius Paul Junghanns, of Düsseldorf. A Memory of the Tyrol.

Laura Knight, of Penzance, England. The Governess.

Gaston La Touche (French, 1854-1913). The Ford.

B. Eastlake Leader, of St. Buryan, Cornwall, England. Moonlight after Rain.

George Sauter, of London (German). Mrs. Penelope Wheeler.

Willy Shuiter, of Laren, Holland. Autumn Day.

The collection of Mr. William A. Slater, also withdrawn for a part of the year, was, with one exception, returned in May; while Mr. Ralph Cross Johnson made several changes in his important loan, and increased the total number from 24 to 36 paintings.

Following is a complete list of the latter collection at the close of the year:

M. Albertinelli. Holy Family and St. John.

John Constable. Dedham Vale.

David Cox. Outskirts of a Wood.

N. Drost. Portrait of a Young Girl.

Govaert Flinck. Madonna and Child.

Thomas Gainsborough. The Earl of Mulgrave; Landscape; Landscape—Evening.

Francesco Guardi. A View in Rome; Ruins with Figures.

William Hogarth. Portrait of Mrs. Price.

Innocenzo da Imola, or Francia. The Marriage of St. Catherine.

Cornelis Janssens. Henry, Prince of Wales.

Sir Thomas Lawrence. Portrait of Mrs. Towry; Portrait of Lord Abercorn.

Lorenzo Lotto. A Venetian Senator holding Gloves.

Nicolaes Maes. A Man's Portrait.

S. Mainardi. The Virgin and Child and Two Angels.

Paulus Moreelse. Portrait of a Woman.

Sir Henry Raeburn. Portrait of Archibald Skirving.

Rembrandt. Rembrandt's Brother-in-law, or "A Man's Portrait."

Sir Joshua Reynolds. Portrait of the Duchess of Ancaster; Portrait of Viscount Hill; Portrait of a Lady; Portrait of Lord Lifford, Irish Chancellor.

George Romney. Portrait of Sir Sampson Wright.

Rubens. The Holy Family.

William Clarkson Stanfield. Marine.

Jan Steen. The Doctor's Visit.

G. B. Tiepolo. Christ in the Temple.

Titian. Portrait of a Cardinal.

B. Van Orley. The Visit of the Wise Men; The Holy Family Panel.

Richard Wilson. Italian Landscape; Landscape.

— . Head of Christ.

The other loans to the Gallery were as follows: From Mr. Wallace Bryant, of Boston, 36 oil paintings by himself, including portraits,

landscapes and figure subjects. From Mrs. George L. Andrews, of Washington, a painting entitled "Elf Ground," by George Inness. From Mrs. Joseph B. Dibrell, of Seguin, Tex., trustee, under the auspices of the Texas Fine Arts Association and Elisabet Ney Museum, Austin, a marble statue, full size, of Lady Macbeth, by Elisabet Ney. From Dr. C. C. Galloway, of Washington, a landscape by Diaz. From Mr. William H. Holmes, of Washington, a landscape by himself, entitled "Chestnut Bloom." From the estate of Arthur J. Parsons, late of Washington, two landscapes, one by John Constable, the other by Peter de Wint. From Mr. F. A. Pezet, Peruvian Minister at Washington, a painting entitled "The Transit of St. Joseph," attributed to Murillo or his disciple, Meneses Osorio. From Mr. J. Van Ness Philip, of Claverack, N. Y., a portrait of Maj. Gen. John P. Van Ness, by Gilbert Stuart. From Mrs. Emma J. Smith, of Washington, a painting entitled "Kingle Ford," by Max Weyl. From Mr. R. P. Tolman, of Washington, a portrait of Albert Pike, by S. Jerome Uhl.

The following paintings from the William T. Evans donation of contemporary American artists were lent for exhibition elsewhere: "The Mysterious Woods," by Roswell Morse Shurtleff, for a memorial exhibition of the works of this recently deceased artist at the Lotos Club, New York, in January. "Sunset, Navarro Ridge, California Coast," and "At Nature's Mirror," by Ralph Albert Blakelock, for benefit exhibitions of the paintings of this artist at the Reinhardt galleries in New York and Chicago during April and May. "An Interlude," by William Sergeant Kendall, lent to The American Federation of Arts, was exhibited, with a collection of portraits, between November and May, at the Worcester Art Museum, the John Herron Art Institute in Indianapolis, the Minneapolis Museum of Art, the City Art Museum of St. Louis, the Cincinnati Art Museum, and the Museum of the Rhode Island School of Design at Providence. It was then sent to Nashville, Tenn., to be shown in the Parthenon in Centennial Park during the summer of 1916. "A Gentlewoman," by J. Alden Weir, and "Caresse Infantine," by Mary Cassatt, were also lent to the Federation of Arts and exhibited in circuit from November to May at the University of Missouri, the University of Nebraska, the University of Illinois, the University of Kansas, the Kansas State Agricultural College and the Kansas State Normal School.

The four paintings from the Evans collection sent to the Panama-Pacific International Exposition in San Francisco in January, 1915, remained there until the close of the exposition in December, 1915. They were: "Plymouth Hills," by John W. Beatty; "A Good Story," by Clara T. MacChesney; "Plenty," by Kenyon Cox; and "May Flowers," by Louise Cox.

MEETINGS AND CONGRESSES.

The Washington Society of the Fine Arts had the use of the auditorium, as in previous years, for its customary three courses of lectures. In the members' course, comprising 6 lectures delivered, with one exception, on the evening of the third Wednesday of each month from November 17 to April 12, Mr. C. R. Ashbee, Fellow of the Royal Institute of British Architects, spoke on "The province of the arts and handicrafts"; Mr. Carroll Beckwith, of New York, on "Versailles and its treasures"; Mr. Alfred Noyes, of England, on "Poetry"; Gwendolyn Logan (Mrs. Hubbard), the accomplished English actress, on "The art of the drama"; Mr. Thornton Oakley, of Philadelphia, on "The ideals of magazine illustration"; and Mrs. William A. Hutcheson, on "Hedges and other features of landscape gardening." Lantern slides were employed except by Mr. Noyes and Mrs. Hubbard. The popular course also consisted of 6 illustrated lectures on alternate Friday evenings from January 7 to March 17, all by Mr. Frank Alvah Parsons, of New York, whose subject was "Practical problems of art in house furnishing and decoration." The music course, by Mr. Nicholas Douty, of Philadelphia, included 5 lectures given on a Monday evening early in each month from November 8 to March 6, and was devoted to "The song as an art form," consisting of explanatory recitals tracing the development of the song from the earliest to the most modern composers, with numerous illustrations in which the piano was used. The subject was divided as follows: Early songs to Beethoven; The German romanticists; Polish, Bohemian, Finnish, Russian and Scandinavian songs; English and American songs; The most modern French and German songs.

Only two other associations met regularly in the Museum. The first of these was the Society of Federal Photographers, recently organized for the advancement of scientific photography as applied in governmental work, which held 10 meetings between October 8 and May 26, using the committee rooms except on three occasions, when special features, attracting larger audiences, made it necessary to occupy the auditorium. One of these principal lectures, all of which were well illustrated, was by Dr. C. E. K. Mees, head of the research laboratory of the Eastman Kodak Co., on the "Underlying theory of practical photography," the other two being by Mr. N. S. Amstutz, of Valparaiso, Ind., on "Marvels of illustration" and "Color scheme in photography," respectively. The District of Columbia Dental Society met monthly in one of the committee rooms, from February 15 to June 20.

The most important gathering of the year was the Nineteenth International Congress of Americanists, which met during convocation week, having been postponed from October, 1914, the time

originally fixed, because of the war in Europe where a large proportion of its membership is located. This congress is an association of scientific men devoted to investigations relating to the anthropology, archeology and history of the two Americas. Originated in France in 1867, its first regular session was held at Nancy in 1875, and since 1900 it has convened alternately in Europe and America every two years, its last previous meeting having been in London in 1912.

The invitation to Washington was extended and the arrangements for the Congress were made by the Smithsonian Institution in cooperation with Georgetown University, George Washington University, the Catholic University of America, the Washington Branch of the Archaeological Institute of America and the Anthropological Society of Washington. Affiliated with the Congress in its meetings were Section I of the Second Pan American Scientific Congress, then also in session in Washington, the American Anthropological Association, the American Folk-Lore Society, the American Historical Association and the Archaeological Institute of America. All of the sessions, with one exception, were held in the auditorium and committee rooms in the new building of the Museum, and while the Congress had conveniently at hand the extensive national collections relating to all branches of anthropology, an exhibition of particularly interesting and pertinent series of objects in physical anthropology, archeology, ethnology and history was specially arranged in the foyer.

The meetings continued from December 27 to 31, inclusive, with two brief sessions on January 3 and 4. On the evening of December 29 a reception was given by the Regents and Secretary of the Institution to meet the members of the Congress, of the Second Pan American Scientific Congress and of the several national organizations then convened in Washington. Both of the exhibition floors in the new building were lighted, and music was furnished by the Marine Band. On the afternoon of December 31, Secretary Walcott, as president of the Washington Branch of the Archaeological Institute of America, received the members of the Congress of Americanists and their friends at a tea in the main hall of the Smithsonian building. This Congress, which was more largely attended than any previous gathering of the Americanists and at which 58 official delegates were present, 16 representing governments and 42, various institutions, was of direct and special interest to the scientific staffs of the National Museum and the Bureau of American Ethnology, many of the members of which took an active part in matters of organization and arrangement, and in the programme of the meetings.

A most pleasing ceremony, which took place in the auditorium on February 9, was the dedication of a bronze tablet in memory of Prof. S. F. Baird as the originator of the federal fishery service. The tablet was executed by Tiffany & Co., of New York, as a donation

to the Bureau of Fisheries and for permanent installation in its building, on the order of 47 contributors, consisting of persons who had served in the fishery work under Prof. Baird or had later joined the staff of the bureau, and of others who have been more or less closely connected with this service or with related operations to which Prof. Baird gave impetus. Measuring about 2 feet wide and 3 feet high, the tablet has a medallion bust portrait of Prof. Baird above, followed by the inscription: "Spencer Fullerton Baird, 1823-1887, Founder and Organizer of the United States Bureau of Fisheries, Commissioner of Fisheries 1871-1887. He devoted his life to the public service and through the application of science to fish culture and the fisheries gave his country world-wide distinction. His co-workers and followers in this field dedicate this tablet on the anniversary of the establishment of the Federal Fishery Service, February ninth 1916."

The tablet in a temporary frame, topped by a shield of the United States and covered with two American flags, was mounted on an easel on the left of the platform. Against the screen in the background was a large portrait of Prof. Baird, while on the right was a small Museum case containing the original manuscript draft of the resolution of Congress approved February 9, 1871, for the appointment of a commissioner of fish and fisheries; the original appointment of Prof. Baird to this position, signed by President Grant; the special grand prize, an elaborate vase, awarded by Emperor William I of Germany to Prof. Baird as "the first fish culturist in the world," at the International Fishery Exhibition held in Berlin in 1880; and a copy of the recently published work by Dr. William Healey Dall, entitled "Spencer Fullerton Baird: A Biography." The platform was further decorated with American flags, official flags of the Bureau of Fisheries and palms. Those who took part in the proceedings were Dr. Hugh M. Smith, the present Commissioner of Fisheries, who presided; Dr. Dall, who spoke upon personal reminiscences of Prof. Baird; Prof. Edwin Linton, who presented the tablet on behalf of the contributors; Mr. Vinal N. Edwards, of the fishery station at Woods Hole, Mass., who unveiled the tablet; and the Hon. Edwin F. Sweet, Assistant Secretary of Commerce, who accepted the memorial in an address touching upon the services of Prof. Baird toward the conservation of the fisheries and the importance of strenuously furthering this cause in the interest of the entire country.

During the week of the Safety First exhibition, February 21-27, described on a subsequent page, the auditorium was occupied on five days for lectures and discourses on the subjects comprehended by this notable display, nearly all of which were profusely illustrated, both motion pictures and lantern slides being used. On the afternoon of the 21st, called Interior Department day, Mr. Ralph W. Stone

spoke on the work of the Geological Survey in connection with hygiene; and Miss Helen Gordon, principal of the kindergarten training department of the J. Ormond Wilson Normal School, on "Safety first through the kindergarten for the individual, the home, the city and the nation." In the evening Hon. Andrieus A. Jones, First Assistant Secretary of the Interior, delivered an address on the "Work of the many branches of the Government which are participating in the exhibition, and the apparent interest of the general public in its conservation activities."

There were two lectures in the afternoon and one in the evening of the 23d, Department of Agriculture day, the former by Mr. C. A. Lindstrom, of the Forest Service, on the work which that branch is doing in the preservation of lives and property, and Mr. Allen S. Peck, Forest Inspector, on "The Forest Service fire protection plans"; the latter by Hon. Carl Vrooman, Assistant Secretary of Agriculture, on the activities of the Government toward the preservation of life and property. The afternoon of the 24th, Labor Day, was also devoted to two lectures. Mr. Bennet L. Mead, of the Children's Bureau, spoke on "Safety first for children," attempting by means of illustrations to show to children street dangers, etc., and the care of young children; and Mr. Lucien W. Chaney, of the Bureau of Labor, on "The iron and steel industry." "The relations of the Department of Labor to the problems of industrial safety" was the subject of a discourse in the evening by Hon. William B. Wilson, Secretary of Labor.

On the morning of the 25th, Department of Commerce day, the safety first work engaged in by the Bureau of Standards, Bureau of Lighthouses and Bureau of Navigation, was illustrated by several reels of motion pictures. In the afternoon Dr. E. Lester Jones explained the work of the Coast and Geodetic Survey, dwelling specially on conditions in Alaska. On the 26th, Treasury and Police day, Mr. William S. Shelby, of the Metropolitan Police Department, lectured on the "Relation of the policeman to the citizens, and safety first," to four classes of approximately 300 children each, between the hours of 11 a. m. and 3 p. m. He was followed by two members of the staff of the Bureau of the Public Health Service, Dr. W. C. Rucker and Dr. L. E. Cofer, who spoke, respectively, on "The prevention of the interstate spread of disease," and "Safety first from foreign diseases." Assistant Secretary of the Treasury, Hon. Byron R. Newton, gave a discourse in the evening on the activities of the Coast Guard, the Marine Hospital and Public Health Service.

This exposition of government appliances and methods in relation to safety first was also the occasion for a meeting of State mine inspectors who assembled in Washington under the auspices of the Bureau of Mines and occupied the larger committee room on February 24 and 25. Only official representatives were present.

The exercises attending the centenary celebration of the organization of the Coast and Geodetic Survey, consisting of an illustrated exposition of the work of that service, were held in the auditorium on the afternoon and evening of April 5 and the afternoon of April 6, and were supplemented by an important exhibition in the foyer, elsewhere described. These meetings were of exceptional interest as they were devoted to addresses by eminent men who had been invited to speak upon those phases of the Survey's activities with which they are best acquainted, and in this way practically all of the various kinds of work which that bureau undertakes were commented upon by experts not connected with it. These papers covered the past and present of the Survey and in a measure the possibilities for greater results to be accomplished.

At the annual meeting of the National Academy of Sciences, on April 17, 18 and 19, the auditorium was used for the presentation of scientific papers in open session, the committee rooms being occupied for the business sessions. "The origin and evolution of life on the earth" was the subject of two illustrated lectures by Dr. Henry Fairfield Osborn, under the William Ellery Hale foundation, the first of which was delivered on the evening of April 17, the second on the afternoon of April 19. The former was followed by a *conversazione* in the art gallery and rotunda, with music by the Marine Band, to which all members of the scientific societies of Washington, with ladies, were invited.

The American Association of Museums held its eleventh annual meeting in Washington from May 15 to 18, and The American Federation of Arts, its seventh annual convention from May 17 to 19, with one joint session. The Museums Association utilized the auditorium on the morning of May 17, but all other sessions of both organizations were held at the New Willard Hotel. The Association of Museums had its origin in a meeting of nine directors of American museums at the National Museum in 1905. It was formally organized in New York the next year, and with a constantly increasing membership and well directed efforts, it has come to be recognized as an exceedingly important factor in the advancement and direction of museum movement throughout the country. This, the first meeting in Washington, was largely attended and an interesting programme was presented, special topics being "A museum game," "Instruction service in museums," and "The art museum and the people." On the evening of May 17 a reception in the name of the Regents and Secretary of the Institution was given in the new building to the members of the Museums Association and the delegates to the convention of the Federation, the occasion being signalized by the opening of a loan exhibition of American industrial art, which had been assembled under the auspices of the Federation of Arts.

Other annual or special meetings in the Museum were as follows: During a three-day convention, the National Association of First and Second Class Postmasters occupied the auditorium for two of its sessions, on the morning and afternoon of October 21, one of the features of which was an exhibition of motion pictures illustrating the postal service. The auditorium was also used during the day and evening of December 16 by the Mining and Metallurgical Society of America, meeting in collaboration with the American Mining Congress and several other mining and engineering societies, and with representatives from several chambers of commerce and many operating mines. The object of the gathering was to urge upon Congress the necessity of modifying the existing United States land laws as they affect mineral locations, and the appointment of a government commission to investigate the questions and interests involved and to make recommendations as a basis for a proposed mining law revision. The speakers included members of Congress and others prominent in mining matters, and some of the addresses were illustrated with lantern slides. The Society of American Foresters, the American Oriental Society and the American Surgical Association all held their annual meetings in the new building, which occurred on January 22, April 24 to 26 and May 9 to 11, respectively.

Many interesting lectures on various topics were delivered in the auditorium during the year, nearly all of which were illustrated with lantern slides, and one or more also with motion pictures. On the evening of November 5 Mr. Henry Turner Bailey, of Boston, spoke before the Art and Archaeology League on "A national museum and school of the arts." "The necessity for water power development" was the subject of a discourse by Mr. Henry J. Pierce, of Seattle, on the evening of January 18, given at the request and under the auspices of the Senators and Representatives in Congress from the State of Washington. The committee of the Daughters of the American Revolution on historic spots and records and their preservation was sponsor for two lectures, one by Mr. Fred E. Woodward, on the evening of January 27, on "The monuments or milestones of the boundary of the federal territory called the District of Columbia," the other by Mr. Glenn Brown, on "The plan of preserving the beauty of Washington."

Under the auspices of the Washington Academy of Sciences, 7 lectures were given during March, April and May, 4 occurring on Friday afternoons in April constituting a series dealing with the subject of nutrition. The entire programme was as follows: "Surface features of Europe as a factor in the War," by Dr. Douglas W. Johnson, of Columbia University; "Chemistry in relation to the War," by Dr. L. H. Baekeland, of the Naval Consulting Board; "The basal food requirements of man," by Dr. Eugene F. DuBois, Medical Director,

Russell Sage Institute of Pathology; "Nutrition and food economies," by Dr. Graham Lusk, of Cornell University Medical College; "Investigations on the mineral metabolism of animals," by Dr. E. B. Forbes, of the Ohio Agricultural Experiment Station; "The relation of the Vitamines to nutrition in health and disease," by Dr. Carl Voegtlin, of the U. S. Public Health Service; and "Resemblances between crown gall in plants and human cancer," by Dr. Erwin F. Smith, of the Bureau of Plant Industry.

On March 25; Dr. Aleš Hrdlička addressed the Alumni of the Angle School of Orthodontia on "Normal variations in the human dental arch"; and on April 29, Prof. Albert T. Clay, of Yale University, gave an illustrated lecture before the Washington Society of the Archaeological Institute of America, on "Art in Babylonia and Assyria." On May 12, Mr. Frank M. Meyer, explorer, of the Department of Agriculture, lectured on "Travel and exploration in China," under the auspices of the District of Columbia Chapter of the Society of Sigma XI; and on May 24, Mr. Joseph Steinmetz, President of the Aero Club of Pennsylvania, gave an address, under the joint auspices of the Washington Chemical Society and the Washington Society of Engineers, on the subject of "Machine shop and chemical laboratory as related to national preparedness for defense."

The States Relations Service of the Department of Agriculture had the use of the committee rooms on November 23 and 30; while, under the auspices of the same service, the annual conference of State agents in home demonstration work, with exhibitions of methods of cooking and preserving, was held from December 13 to 17. Higher education for women in the District of Columbia was the subject of a meeting of the Washington branch of the Association of Collegiate Alumnae on December 15. At the instance of Maj. Raymond W. Pullman, Chief of Police, some 150 members of the local organization of the Boy Scouts were instructed on February 12 in the subject of "Safety first" as it relates to the police regulations, by Mr. W. S. Shelby of the Police Department. On the afternoon of February 27, the auditorium was occupied by the community forum known as the Margaret Wilson Social Center of the Grover Cleveland School, at which, following addresses to the pupils, a series of motion pictures illustrative of the safety first movement was shown.

A reception in honor of the delegates to the twenty-fifth annual convention of the Daughters of the American Revolution was given by the Regents and Secretary of the Institution in the new building on the evening of April 15, from 9 to 11 o'clock, the main floor being used for the occasion, and music furnished by the Marine Band. On the afternoon of May 5, the National Society of Colonial Dames and members of other kindred societies were received in the older Museum building, a special view of the American historical costume col-

lection and of the loan collection of the Colonial Dames being the principal feature of the function. On the evening of May 15 the members of the recently established Department of Commerce Club had a meeting in the auditorium, at which they were addressed by Secretary William C. Redfield on the benefits to be derived from such an organization, followed by a musical programme and an exhibition of motion pictures.

SPECIAL EXHIBITIONS.

The Museum furnished accommodations for and assisted in the installation of several important special exhibitions, which are to be classed among the more noteworthy features of the operations of the year. Three of these related strictly to affairs of the Government—an exposition of its Safety First methods and appliances, the centennial anniversary of the Coast and Geodetic Survey, and a competition of sculptural and architectural designs for a memorial to Francis Scott Key. Two were held in connection with an international congress and a national convention, respectively, the former pertaining to anthropology, the latter to industrial art. More restricted, but of much local interest, was a display of industrial work by the children of the playgrounds of Washington.

ANTHROPOLOGY—INTERNATIONAL CONGRESS OF AMERICANISTS.

As a feature of the meeting of the Nineteenth International Congress of Americanists and affiliated societies the last part of December, 1915, a varied and interesting special exhibition of anthropological objects was arranged in the lower great hall of the new building, where it attracted much attention. While the material was mainly supplied by the Museum, there were several contributions from other sources.

Pertaining to physical anthropology were the following exhibits, arranged by Dr. Aleš Hrdlička of the Museum staff: Twenty-four busts of superior fidelity and workmanship, comprising a series of the Omaha, Osage, and distinguished individual Indians from delegations sent by the tribes to Washington, made by the Museum, and forming accurate and permanent records of the normal type of full-blood Indians of these tribes. Two cases of variously fossilized or petrified human skulls and bones, all originals but three, which at one time or another have been attributed to geologically ancient man, but which are demonstrated to be fairly recent and Indian. Two cases of specimens, mostly undescribed, from the Peruvian cordilleras, showing native surgery for wounds of the skull—modes of operation by drilling, scraping and cutting, and trephining by means of plates of gourd, shell and silver. One case illustrating the range of colors in the hair of living adult white Americans of at least three generations on

each side born in the United States, and of the character of the hair of pre-Columbian Indians, and of Egyptians from before 4,000 B. C. Installed elsewhere, but noted in conjunction with the above, were 10 cases containing illustrations of prenatal development of the brain, casts of brains of famous men and of remarkable cases, casts of racial brains and of brains of apes, specimens showing the development of the skull to the time of birth, the most complete series of casts, etc., in America, relating to early man, and representations of the three varieties of artificial skull deformation in America, the so-called "flathead," the "Aymara" and the "Pueblo," and of various artifacts on skulls, such as painting, tattooing and ceremonial decorations.

An exhibit assembled by Mr. W. E. Safford, of the Department of Agriculture, and occupying several cases, illustrated in a very novel and instructive manner the principal food, textile and other useful plants which America has given to the world. Specimens of the plants and plant products from prehistoric graves and mounds ranging from Argentina and Chile to Canada were shown, supplemented by representations of grain, fruits and vegetables on earthenware funeral vases and stone images, and by photographs of examples in the National Museum, the Field Museum of Natural History, the American Museum of Natural History and the Peabody Museum of Harvard University. The seeds, fruits and roots from graves on the arid desert coasts of Peru and northern Chile and the caves and cliff-dwellings of the southwestern United States are in a remarkably perfect state of preservation, while those from regions where there is more rainfall have persisted only when charred or carbonized by fire, as seen in specimens from the burial mounds of the eastern United States. Apart from the material of undoubted pre-Columbian origin, recent specimens from cultivated plants endemic in America were also shown, together with photographs of the principal types of maize, beans, squashes, peanuts, fibre-plants and fruits.

A series of characteristic specimens illustrating the "red paint culture" of Maine was exhibited by Dr. Warren K. Moorehead, curator of the department of archeology, Phillips Academy, Andover, Mass.; and two series of potsherds of the ancient Pueblos of the Southwest were contributed by Dr. A. V. Kidder, curator of North American archeology, Peabody Museum, Cambridge, Mass.

A number of important early treaties between the Government of the United States and Indian tribes, containing the signatures and totems of many noted chiefs, were furnished by the Department of State. They included Fort Pitt, September 17, 1778; Fort McIntosh, January 21, 1785; Fort Stanwix, October 22, 1784; Fort Harmar, January 9, 1789; the Cherokee treaty of July 2, 1791; and the Treaty of Prairie du Chien, July 29, 1829. The recent remarkable

progress in ethno-photography was illustrated by enlargements of portraits of southwestern Indians by Mr. Frederick Monsen, of New York, and of celebrated Indians by the Rodman Wanamaker expedition. Also included in the exhibition was a selection of anthropological papers published by the Smithsonian Institution and its bureaus and by other institutions, societies and individuals conducting anthropological work in America.

SAFETY FIRST EXHIBITION BY THE FEDERAL GOVERNMENT.

During the week of February 21 to 27, the main lower hall in the new building, with three of its communicating rooms, was occupied by one of the most remarkable and interesting Government exhibitions that has ever been brought together. Having as its theme the "Safety First" idea, and originating in a suggestion from the Bureau of Mines, it was participated in by 19 bureaus under 6 of the executive departments, 1 independent bureau, the American National Red Cross Society and the Metropolitan Police Department, the activities of all of which are primarily for, or comprehend in a marked degree, the safeguarding of life and property as well as the prevention and care of disease. While there is not an industry in the United States which is not in some way the beneficiary of the safety first work of the Federal Government, never before had it been attempted to illustrate the government's activities and measures of preparedness along this important line on a scale so complete and comprehensive, and, notwithstanding the restrictions imposed by the limited space available, the demonstration proved in every respect most effective and satisfactory.

Attention was widely called to the exhibition in advance and during the week, as elsewhere described, many illustrated lectures and addresses explanatory of the exhibits and of the relation of the Government to safety first matters were given in the auditorium. The governors of States were also notified of the national aspect of the exposition, one of the results of which was to bring about a meeting of State mine inspectors in the Museum, and manufacturers and operators from all over the country were invited to be present.

The arrangements for the exhibition were in charge of a general committee, of which Maj. William Lyster, U. S. Army Medical Corps, was chairman; Mr. M. F. Leopold, of the Bureau of Mines, secretary; and Assistant Surgeon General W. C. Rucker, of the Public Health Service, chairman of the committee on exhibits and floor space. Each of the participating organizations also had one or more representatives to attend to its particular interests.

Opened on week days during both the day time and evenings, and on Sunday during the afternoon, the total attendance of visitors for the week was 35,447, a daily average of about 5,000; but on Wash-

ington's birthday it exceeded 9,000, and on Saturday reached about 8,500.

The President of the United States, in a letter to the Secretary of the Interior just previous to the exhibition, expressed his approval of the project in the following words:

"Particularly at this time it is wise and wholesome that the Federal Government should call the attention of the people of the country to what the government is doing to preserve life, the greatest of all the resources of the nation.

"The rescuer of the Bureau of Mines, who braves the poisonous gases of a mine and saves a miner from death; the coast guard who at the peril of his own life saves the passengers of a helpless vessel from death; the surgeon of the Public Health Service who stops a dreaded scourge in its incipency and saves thousands of lives; the engineer who succeeds in reducing the hazards of his industry to its men, and the man who brings about better conditions of living among the people—I consider all types of the hero who will be most regarded in the near future.

"The Federal Government is doing an exceedingly helpful work along just such lines, and I doubt if the public appreciates how extensive and important that work is. I especially like your idea of making this as much as possible a national affair. Every manufacturer, every railroad man, every miner, every operator, every workman, and every humane person in the country ought to be interested. I sincerely wish you success in this undertaking."

In view of the wide scope of this exhibition and the range of illustration which it furnished, it might well have served as the basis for a popular treatise on the subject of what the Government is doing for the preservation of life and property. A work of this character would be of extreme interest to the public and will, doubtless, sooner or later be prepared. As such a publication appears not at present to be contemplated, and it has seemed important to secure a permanent record of this particular exhibition, an effort has been made, with the help of the several bureaus represented, to explain on the following pages at least its main features and the lessons it was designed to teach. The information supplied the Museum for this purpose amounted in some instances to well-rounded summaries of the aims and methods of the bureaus, while in others it consisted of scarcely more than lists of the objects exhibited, but, notwithstanding these inequalities, it may be regarded as covering the subject in a fairly complete manner.

DEPARTMENT OF THE TREASURY.

Bureau of the Public Health Service.—In the exhibit provided by this bureau a symbolical figure of man occupied the center of the group, over which was the caption "Health is Safety" and "Safety

is Health." On either side were placards tersely stating the results of 10 years' work in the prevention of disease. At the right the entire process in the manufacture of typhoid vaccine was demonstrated, each successive step being succinctly labeled, beginning with the culture, its growth in the incubator, the killing of the organisms, their counting through the aid of the microscope, the various tests for purity upon rabbits, guinea pigs, and white mice, together with the filling and testing of the ampulles and finally the finished product. At the left were three models of rat-proof houses, showing the various methods of rat-proofing, a model of a vermin-proof stable and one illustrating the construction of a rat-proof wharf. In the center was a mounted dog, properly muzzled, designed to bring to the attention of the public not only the loss of life from a preventable disease, rabies, but also the economic loss now ensuing from this infection. The remainder of the exhibit consisted of pictures illustrating quarantine procedure and placards showing the reduction in mortality of such conditions as Fourth of July tetanus, smallpox, typhoid fever and diphtheria.

The Coast Guard.—Illustrating with a map the cruising districts of Coast Guard cutters, the location of Coast Guard stations and the extent of coast districts, this service was represented by the following apparatus, belonging to the outfits of its stations and vessels on the seacoasts and Great Lakes: A self-bailing power surfboat, of full size and completely equipped, designed for launching off the beach and making way through the surf or a heavy sea in rescue operations. A beach apparatus cart and outfit, also of full size, designed for establishing hawser connection with a stranded vessel from the beach, its purpose being the taking off of the crew, passengers, mail, etc., by means of a buoy hauled back and forth along the hawser. A steel life-car, for use in place of the buoy under certain conditions, as, for instance, since it can be entirely closed, when it is necessary to haul through the surf, the hawser being made fast on the hull of the vessel, owing to the loss of her spars. A 6-pounder, rapid-fire gun, one of the battery installations on cutters, adapted, by the use of a special projectile of Coast Guard design, for line-throwing. Hawser connection between the cutter and a vessel needing assistance can be established after the shot line has been passed, obviating the necessity for employing a boat when the condition of the sea would render its use doubtful of success. An acetylene light for illuminating the beach and vicinity of a wreck during night operations. An acetylene reflector signal lamp for night communication between stations and vessels passing along the coast, designed for signaling with the Morse, international or other telegraphic codes employing the dot and dash system, the signals being produced by shutter interruption of the light beam.

DEPARTMENT OF WAR.

Medical Department, U. S. Army.—The exhibits included the following: Three lay figures of soldiers, showing masks used in the present European war for the protection of soldiers against inhalation of poisonous gases. One lay figure of a soldier equipped with the new metallic helmet issued to the French troops for protection against rifle and shrapnel fire in trench fighting. Two lay figures of soldiers equipped with medical officers' and hospital corps' belt for carrying emergency medicines, dressings, etc., for use in the field. Operating room of field hospital equipped with folding operating table, general operating case, surgical and sterilizer chests, muslin roll of surgical dressings and acetylene generator and lighting outfit. Outfits for sterilizing water for drinking purposes for use by troops in the field, comprising a Forbes Waterhouse sterilizer, a Darnell filter, and a Lyster water bag. Dressing station outfit assembled in boxes and packed on an effigy of a pack mule, and the same unpacked and ready for use. Equipment for fitting up railway cars for the transportation of wounded to base hospitals. Chests containing medicines, surgical instruments, appliances, dressings, and equipment for use by the Medical Department of the Army in the field.

DEPARTMENT OF THE NAVY.

The *Hydrographic Office* was represented by the following examples of its publications, which are issued in accordance with the objects of its establishment "for the improvement of the means for navigating safely the vessels of the Navy and of the mercantile marine," namely: A general catalogue of navigational books, charts and periodical publications; circular of information, specimens of daily memorandum, weekly notice to mariners, weekly hydrographic bulletin, monthly and quarterly pilot charts of each ocean and of Central American waters, pilots or sailing directions, navigational manuals and tables; several examples showing the world, ocean, coast and harbor types of charts used in navigation; diagram "Utilization of marine data," illustrating the character of information collected from mariners in return for periodical publications in which these data are incorporated; and reprints of hydrographic information regarding the use of oil to calm the sea, cyclonic storms, ice movements, etc.

The *Bureau of Construction and Repair* contributed an electric sterilizing apparatus obtained for the U. S. S. *California*, a Franklin life buoy equipped with electric detaching device, an Edmond's Kapok life preserver, a Kapok life garment, a Kapok mattress or cushion, a cork life ring with water-tight attachment, a Draeger self-rescue apparatus, non-slipping treads, a lavatory with heater, basins without drains, toilet fixtures, an irrigating bottle rack, a surgeon's stool, an electric bacteriological incubator, a carbon tetrachloride fire ex-

tinguisher, foam fire extinguishers and goggles for use in connection with acetylene work and for chippers and cutters.

Among the appliances shown by the *Bureau of Steam Engineering* were a steam siren whistle, a $\frac{1}{2}$ -kilowatt panel radio set, an aeroplane engine, magazine, bulkhead and ceiling fixtures, a portable electric safety and a diving lantern, portable blinker signal and tube sets, a portable searchlight, a warning signal howler, two fire alarms with thermostat frames and thermometers, an engine revolution telegraph transmitter and indicator, a set of fire control telephones and a set of ship's telephones.

The exhibit by the *Bureau of Medicine and Surgery* included an operating room equipment for a modern battleship, expeditionary boat boxes for field work, pouches for the hospital corps for field work for landing parties, laboratory equipment for a battleship, and various types of life preservers and of litters for the transportation of the injured.

DEPARTMENT OF THE INTERIOR.

Bureau of Education.—The presentation made by the Bureau of Education consisted mainly of charts showing the work of the bureau, and of actual school equipment the purpose of which is to conserve the physical and mental life of children in schools. These were supplemented with large photographs and with copies of bulletins of the bureau relating to the matters illustrated. In some cases demonstrations of material were also given. The principal subjects of the exhibition, which was installed on five tables, were as follows:

1. Home education through cooperation with Mothers' congress and Parent-teacher associations. Kindergarten exhibit showing materials used and pictures of children at work—health, happiness, moral, physical and mental training.
2. States having regulations to prevent fires indicated on a map—one building devoted to educational purposes burns every 24 hours in the United States. First-aid cabinet used in Washington schools, containing bicarbonate of soda, absorbent cotton, boric acid, arnica, camphor, ammonia, etc. Washington City fire drill regulations; safety erasers, crayons, hygienic covers for books, etc. Percentage of illiteracy of foreign born, and of native whites and colored, and efforts to overcome it, shown on Division of Immigration charts.
3. Safety first through State legislation. States having laws concerning schoolhouse construction, health inspection of children in schools, fire drills and child labor. Open-air schools and various activities of pupils, illustrated by pictures.
4. Cooperation with public utilities; chart showing how children are trained to avoid accidents on street railways, with picture of children listening to lecture in school auditorium. Alaska hospitals, reindeer service, schools and sanitation.
5. Home economics through choice of foods, care of family, care of house; pictures showing girls

being trained in home activities. School and home gardening in health, good food, habits of industry, more years in school and interest in it, hence better and more efficient lives.

By means of other charts and of pictures and maps were shown the number of children per school nurse in ten cities, and the work of the school nurse; sanitation in rural schools; dental inspection in 443 cities with medical inspection, 34 per cent having dental inspection by dentists; extent of medical inspection in city and country schools, and work of school doctor and number of children he treated in 10 cities; health defects of city and country children compared in 25 cities and 5 States; pictures showing bad buildings, bad heating facilities in 50 per cent of rural schools; hygienic conditions in rural schools in 5 States showing high percentage of inspection of privies, windows, cloak rooms, heating, ventilating, desk and drinking facilities as to individual and common cups, and food; ratio of city and rural school enrollment in all States; State and rural districts having sewing van, lunches in schools, etc.

Geological Survey.—The following were comprised in the work of the Geological Survey: A Price current meter, in order of demonstrating the manner in which the Survey measures discharge of streams, which, in relation to the discharge of sewage and industrial wastes, is an important factor in stream pollution; grammatic charts and photographs illustrating sources of impure ground water and the manner in which such supplies are contaminated or may be naturally protected against contamination including charts of conditions in sand, gravel, limestone, and sandstone, and indicating several classes of ground-water. A traveler's map of Mojave Desert and a topographic map of the Valley, showing how these carefully prepared detailed maps serve travelers in arid regions to find correct trails and safe routes. A large number of instruments used in making the detailed topographic atlas of the United States, demonstrated by attendance included a precise prism level, a theodolite, a 20-inch Y level, spirit level, planetables, a Beaman alidade, a Gale alidade, a Bessel chart and gnomon, and several other appliances and apparatus invented or perfected by members of the Survey. The topographic maps of the Survey are almost invariably used, wherever they are, as the base maps for all sanitary surveys because of their accuracy and detail. A few publications of the Survey of general interest dealing particularly with the subject of sanitation were also shown.

Bureau of Mines.—The chief purpose of the Bureau of Mines is to promote safety in the mining and metallurgical industries of the United States. It is equipped with 5 mine-safety stations, 2 safety cars, and 2 automobile rescue trucks, with crews of men and first-aid men who respond to calls for assistance at min-

At its establishment more than 40,000 miners have been trained in mine rescue and first aid.

With few exceptions, all of the material exhibited had seen actual use. The entire mining industry was not represented, only those devices being shown that are used by engineers of the bureau in the field. A number had been developed by the bureau, while others had at least been improved through recommendations of its engineers. The devices were segregated under general titles and bore a concise descriptive card. The locations of the mine cars and stations and of the offices and experiment stations indicated on a map, while various phases of the rescue work were depicted by means of photographs mounted on a screen. The details of the exhibition were as follows:

Three life-size manikins were displayed three types of self-contained oxygen breathing apparatus used by the rescue crews in rescuing miners after a fire or explosion. On a fourth was shown a new breathing apparatus, developed by engineers and physicians of the bureau. Light and with its parts well protected against dust, a special feature is that the oxygen is fed at the rate it is needed, that when plenty is available for the wearer while working, no oxygen is wasted while he is resting. With these devices were a device for testing breathing apparatus, mine-rescue signal giving warning when wearing breathing apparatus, and canary birds and oxygen bird cages. The canary is very sensitive to carbon monoxide and is used to detect the presence of gas; when the bird shows distress the men know it is time to put on their breathing apparatus; the shutter on the cage is closed, the oxygen turned on and the bird recovers.

Next in the series were a 75-foot line employed by rescue crews to find their way back out of a mine, and a portable mine-rescue telephone used by men wearing breathing apparatus, the transmitter of which is strapped directly over the vocal cord. By means of this telephone a rescuer wearing breathing apparatus can maintain communication with the fresh air base for a distance of about one-quarter of a mile.

For reviving a person overcome by mine gases was a device for administering pure oxygen, consisting of a tank, a reducing valve for regulating the flow of oxygen, tubes, and a face mask with an outlet valve for the breath. This appliance is employed in conjunction with artificial methods of respiration, which, with others, were represented by a lungmotor, an apparatus for forcing air or air enriched by oxygen in and out of a person's lungs; the stretcher used by rescue crews in carrying injured persons from a mine, splints for tying broken limbs and a completely equipped Bureau of Mines first-aid cabinet.

Photographs of the rock-dust barriers devised by its engineers checking explosions in coal mines and a working model of the rock-dust barrier illustrated an important part of the bureau work in investigating the causes and methods of prevention of explosions in coal mines. The force of the explosion dumps the barrier and launches its load of rock dust into the mine air, cooling and quenching the flame. Two pieces of apparatus devised by the bureau are used for conducting tests, the one to determine the inflammability of coal dusts in order to ascertain how much dust or shale dust must be added to make the coal dust inert, the other the inflammability of mine road dusts and rib dusts. In the former the dust is blown in a cloud against a heated platinum wire within a glass bulb, the pressure developed within the bulb being a measure of the inflammability of the dust. The latter is for determining the proportion of ash or shale dust in mine-road samples. The apparatus included a scoop for taking samples of mine-road dust and a manometer was also shown in this connection. Another device is one employed in investigating the effects of rock dust as a cause of pulmonary disease in the air of the lead and zinc mines in the Joplin district. The amount of dust breathed by a man in a given time can be determined, and as a result of recommendations based on such investigations the health conditions in these mines have been greatly improved.

Among the many other devices exhibited were the following: An explosion-proof motor approved by the bureau and based upon its tests of electrical mining equipment as permissible for use in gaseous mines, illustrated by a photograph. Apparatus for testing mine air and ventilating currents in mines, including an anemometer, a psychrometer and an aneroid barometer. Apparatus for detecting fire damp; a flame test by which the percentage of oxygen or carbon dioxide can be determined; a portable device for the analysis of methane in mine air; an Orsat apparatus for analyzing mine gases, used in mines after a fire or explosion to determine from the composition of the gases the progress of the fire; and bottles for collecting samples of mine gases. Electric and flame safety lamps of types which, having passed certain tests, are designated by the bureau as permissible for use in gaseous coal mines, together with a box for testing such lamps in an atmosphere of explosive gas. Sixty-five ingredients of explosives that have passed chemical and physical tests by the bureau and been designated as permissible for use in gaseous and dusty mines. Having a short quick flame, they are much less liable to ignite gas or dust than the flame of black powder or dynamite; no great mine disaster has yet been traced to their use, and their introduction, largely due to the efforts of the bureau, has marked a great stride in increasing safety in coal mines.

apparatus for testing the liability of an explosive to exude nitrogen. Devices to insure the safety of miners in handling explosives, consisting of a 5-pound powder jack or metal water proof for carrying powder into a mine, and a safety box for carrying detonators used in blasting, only one of which can be removed at time. Apparatus to insure safety in firing shots by electricity; dynamometer for testing the circuit of a round of shots; a vest at firing machine, and electric igniters, consisting of a paper or capsule charged with gunpowder.

Two light-tight booths was displayed a radium exhibit. One had two spinthariscopes and two radium safety signs, the emanation tube. Included in this connection was a tube containing one gram having the appearance of radium chloride, which amount would have a value of \$120,000.

A collection of mine-accident statistics, an important phase of the bureau's work, compiled and classified so that operators and may readily see where the hazards arise and take measures to improve conditions, was illustrated by 5 charts. The bulletins, papers and miners' circulars of the Bureau of Mines relating to safety were also exhibited.

DEPARTMENT OF AGRICULTURE.

Bureau.—In the preparation of the Weather Bureau the idea of presenting only those features of the bureau's work which are more directly concerned in saving human life was carried out, and for that reason it did not include many interesting matters which might otherwise have been illustrated. Large screens were used for the display of charts and photographs. The series of photographs was extensive, some being furnished by the River and Flood Division, others by the official in charge at Galveston, and quite a number were from the storm warning stations in the Galveston district. Among the subjects represented were damage by storms and methods of distributing storm warnings by motor boat, by automobile, by motor cycle, and by rockets. As a center piece on one screen was shown Mr. Stewart's engraving of a copy of resolutions commending him for his work in life-saving at Galveston.

On one table were exhibited the standard storm warning lanterns of the bureau, one red and one white electric, and one red and one white oil-burning, all in operation. On another were displayed the automatic instruments of the bureau, consisting of triple register, wind vane, anemometer, and sunshine recorder wired up and in operation, the sunshine recorder by means of an electric lamp, the anemometer by means of an electric fan. The river gauge transmitter was so mounted that by pouring in or drawing out water the working of the instrument could be shown for the information of visitors. The

barograph and thermograph as well as barometers were also exhibited. In an overflow exhibit in an adjoining room were a series of charts showing the track of a West India hurricane, and the means taken for giving warning in advance of its approach, and also a remnant of a storm warning flag that was displayed during the recent New Orleans hurricane.

Forest Service.—The Forest Service exhibit was designed to bring out the features of Service work which have to do specifically with the conservation of life and property, namely, forest fire prevention and watershed protection.

During the past 50 years more than 3,000 lives have been lost in forest fires in the United States. Over \$25,000,000 worth of standing timber is destroyed annually by fire; and this does not include the damage done to young growth, the injury to industries dependent upon the forests, or the loss in productiveness of burned-over areas. As a calamity a great forest fire ranks well with flood and famine. To prevent loss of life and of public property under its charge from this source, the Forest Service has established a comprehensive system for detecting and fighting fire in the National Forests. In the exhibit this system was explained by means of bromide enlargements, transparencies and models, and by some of the actual instruments and tools used in fire protection work. Pictures showed forest fires burning and large areas of valuable timber laid waste by flames. A view of the town of Wallace, Idaho, after its partial destruction by a forest fire, brought home the fact that such conflagrations are a menace not only to the rural population, but to the people of towns and cities as well. A picture of a lookout house on the summit of Mount Eddy, Cal., showed one of the many stations situated on high points in the National Forests, connected by telephone with supervisors' headquarters, where a constant watch is kept for fires during seasons of greatest danger. Other views illustrated how a brush fire is fought with shovel, ax, rake and spade; how trails in the National Forests, cleared on either side of inflammable material, serve as fire-breaks; and how wide fire lines are cleared in the forests wherever practicable.

How brush is piled and burned after logging on a National Forest timber sale area as a means of disposing of inflammable material was represented in several transparencies and bromides. The use of the heliograph for reporting fires and the employment of fire towers, lookout houses, telephones, and tool boxes, with their fire-fighting equipment and emergency rations, were also illustrated. An actual tool box was displayed as well as a model of a fire tower in miniature. Two types of the portable telephone which forest rangers carry, and with which they can tap the main telephone line at any point for the purpose of reporting a fire, and the type of iron box outdoor tele-

phone used on exposed situations on the National Forests, were likewise exhibited.

The results which follow denudation of a watershed were illustrated by a working model, showing the action of rainfall on forested and deforested hillsides. The model was made up of two hills of equal size and of the same kind of soil situated side by side, one of which was covered with moss, litter and twigs to represent the forest cover on a mountain side, while the other was left bare to represent a slope denuded by fire. Water was sprinkled in equal volume on each of the hills. On the forested mountain the water was absorbed by the litter, which permitted it to sink into the ground and feed the springs or to run off gradually, free from sediment, into a stream and a lake in the foreground of the model. On the deforested mountain the water ran off immediately, eroded the slopes, filled the stream channel and lake, as well as a storage reservoir, with sediment, and caused destructive floods in the lowland. This model was supplemented by a series of six other models showing how destructive lumbering sooner or later results in the mountain slopes becoming entirely denuded, with the resultant evils of rapid runoff of rain-water and erosion, while under conservative lumbering the protective cover on the slopes remains intact and a new and better timber growth takes the place of the old.

On watersheds in the National Forests where fire has destroyed the ground cover, young trees are being planted as fast as practicable. There were several pictures of such reforestation operations, while others illustrated how the young trees intended for planting are grown in National Forest nurseries. A transparency showed forest land where the ground had been made bare by overgrazing, the young trees destroyed, and the soil loosened, conditions which, by the restriction of grazing on important watersheds, are not permitted to occur on the National Forests. A chart indicated, by States, the number of watersheds within the National Forests.

An automatic slide projecting machine, showing 104 slides and descriptions side by side, told a continuous, illustrated story of Forest Service activities in the conservation of life and property. The National Forests afford recreation grounds for a million and a half people annually, and several pictures illustrated this feature of their use.

Animals which prey on livestock cause the loss of thousands of head each year, and of late the spread of rabies among wolves and coyotes has brought danger to the population of large areas in the West. The Forest Service, in cooperation with the Biological Survey, systematically destroys predatory animals, 5,000 having been killed on the National Forests last year. Three pictures illustrated this work.

A model of an ideal National Forest, measuring 5 by 6 feet, brought out in miniature many of the activities which have been described, and, in addition, the various other uses of the National Forests, such as the sale of timber, grazing of livestock, the lease of water power sites, and the construction of bridges, trails, roads, telephone lines, fire lines and lookout houses. Near this model, a map of the United States indicated where the 153 National Forests are situated. A chart of "Seven Don'ts" for fire prevention was prominently displayed, and a large colored bromide showed ideal conditions in a mountainous country with the slopes in forest and the level lands under cultivation.

DEPARTMENT OF COMMERCE.

Bureau of Standards.—Almost every branch of activity of the Bureau of Standards has a part in the solution of some safety problem and, further, the duty of testing materials and devices for other Government branches brings the bureau closely in touch with their specific safety problems also. In order to show most clearly to the interested visitors, in the limited space occupied by the bureau, the more prominent fields covered by its safety work, through its Washington and Pittsburgh laboratories and its field inspections and co-operative studies, its exhibits were grouped under six principal headings and an index of them was displayed at the entrance to the room in which they were installed.

The principal safety investigations are those dealing with the hazards of, 1, marine transportation, 2, land transportation, 3, building and bridge construction, 4, commercial applications of electricity, 5, commercial applications of gas, and 6, lightning.

Under the first title, a radio fog-signalling device, invented and developed by a member of the bureau staff, was shown in operation. By means of this equipment a predetermined signal may be transmitted automatically and those in charge of a ship equipped with proper receiving apparatus be thus warned of their proximity to dangerous locations. By the use of other equipment developed at the bureau, the direction of the station from which the warning signal is being transmitted may be determined and the protection afforded marine transportation is thereby rendered much greater than formerly, particularly in thick weather, when other signals are inadequate. The decremeter, invented at the bureau and built by it for the Bureau of Navigation, was also exhibited. This instrument is used by the latter bureau in its administration of the radio laws to determine if a station causes interference to signals when transmitting, and the instrument thus becomes a very important safety device. A chart illustrating some of the conclusions arrived at by the Bureau of Standards in its study of fogs at sea attracted much attention. It included the results of a number of observations which indicated that

many such fogs extend so slight a distance above decks that signals properly located at the mastheads of approaching vessels should be readily observable by lookouts in the rigging of a ship, and collisions thus prevented.

Closely allied with safety in marine and land transportation is the fusible safety plug for steam boilers, which also has a very extensive use in stationary boilers. The fusible element is tin and, unless this is of very high grade and proper care is taken in preparing it, the operation of a plug becomes unreliable. The bureau has conducted an extensive investigation of these devices and samples of that work were exhibited. The research disclosed the information that unless tin of the proper degree of purity is used, changes in the composition of the fusible material may take place within several months, probably raising its melting point and thereby destroying its usefulness as a safety device. Recommendations have been formulated covering the inspection and testing of these plugs in order to prevent possibilities of improper performance. It has been noted, with surprise, that the practice is apparently current among boiler tenders of stopping up leaking fusible plugs with infusible materials, such as plaster of Paris. Such a practice prevents the proper operation of the device and its existence clearly indicates the necessity for very thorough field inspection.

The exhibit dealing with the second and third items included photographs illustrating some of the heavy mechanical tests made on building and bridge members by the bureau, together with a steel column specimen which had been tested. From the point of view of safety in structures these tests, carried on in cooperation with the American Society of Civil Engineers, are of great importance as the present data relative to the strength of such materials are meagre. Included with this exhibit were several fragments of steel railroad rails, which had been investigated because of their failure in service, and an elaborate display of photographic studies of the structure of such defective rails.

Also, in connection with safety in land transportation, results of the bureau's study of railway signal glass were demonstrated. This demonstration particularly emphasized the necessity for confining the spectral transmission of such glass to a particular portion of the spectrum in order to eliminate accidents through confusion as to the actual color of signals. By comparing samples of glass which improperly transmit certain unintended colors of the spectrum with other samples of glass having proper characteristics, it was strikingly shown how important this subject is in safety of transportation.

Under the third heading, building construction, in addition to what has already been noted there was included an exhibit illustrating the bureau's investigations relating to fire resistive properties of struc-

tural materials. This was limited to a few pertinent photographs showing the necessity for these investigations, a special collection of pictures indicating how the ignorance and carelessness of the public contributes to the fire loss, and two charts. The first chart, after briefly explaining the enormous yearly property and life waste, gave the objects of the bureau's present work and the investigations under way, illustrating furnaces now being built. The other chart told what the public could do to diminish the fire waste and enumerated "12 Fire Don'ts," the observance of which would eliminate a large percentage of this waste.

The display of national standard fire hose couplings, developed at the Bureau of Standards, received much favorable comment. The interchangeability between different cities of fire-fighting equipment is a very important matter at times of extended conflagrations when outside aid is necessary.

The investigations carried on at the bureau concerning concrete were shown by several specimens, together with samples of cement illustrating the results attained by using the "Air-separation-method," invented and developed by one of the bureau's staff. The commercial application of this method would insure a much higher grade of cement, through the elimination of inert material, and at the same time permit a more complete grading, as to size, of the cement particles. A drawing in explanation of this method of air-separation as employed at the bureau formed a portion of the exhibit, and several photographs setting forth the bureau's study of injuries to reenforced concrete due to electrolytic action were also shown.

The fourth subject of general investigation conducted by the bureau, the electrical life hazard, was illustrated by means of a chart outlining the four parts of the national electrical safety code which the bureau has prepared. This code treats of the methods of construction for stations, lines and utilization equipment, together with operating rules for electrical workers. In connection with this chart was another indicating the nature of the various forms of electrical accident which conformity with the code would prevent. There was also given a list of the several national technical associations and public bodies which have cooperated with the bureau in the preparation of the code. Maps prepared to show the distribution and number of accidental fatalities due to electrical causes in the United States for two years were likewise a part of this exhibit. These were based on reports from the Bureau of the Census and were subdivided so as to indicate fatalities to electrical workers and the general public. At present the deaths due to this cause exceed 1,000 annually, and a great proportion of this number could be prevented by compliance with the rules of the code. Another chart gave twelve simple precautions to be observed by the public when in the

vicinity of electrical equipment. A series of photographs illustrated well-constructed overhead electric transmission lines, as well as overcrowded lines which had failed due to heavy loading from wind and snow. An extensive display of various types of electrical switch and fuse cabinets, for indoor and outdoor service, represented methods by which persons may be safeguarded by permitting the enclosure of live parts even during their operation. A selection of insulated tools, covers and other devices indicated various ways in which workmen may be protected while about electrical equipment or on overhead lines.

The investigations in connection with the hazards to life due to gas were brought out through the medium of a chart which outlined the principles of the gas safety code now under preparation by the bureau. This also included a list of typical fatal accidents which could be prevented by conformity with the code, as well as a list of those bodies which are cooperating with the bureau in this work.

Under the heading of "lightning hazards" was shown a chart stating the annual life and property loss in the United States due to lightning. It likewise furnished information on means for prevention and on precautions to be observed by the public in order to minimize the liability of injury from this cause. Several displays of lightning rods and photographs of lightning discharges brought forth favorable comment.

Besides the exhibits grouped under the foregoing headings, several other lines of the bureau's investigations were represented. The use of lead and lead coloring materials is very harmful to workmen engaged in making glazed colored building tile. The ceramics work of the bureau was illustrated by an attractive display of tile with colored glaze free from lead, and there was also shown a sample of white glazed enamel made at the bureau laboratories for use on iron or other similar materials. This latter is of considerable importance as the enamel freely expands or contracts at the same rate as the iron on which it is applied and thus does not readily crack when repeatedly heated or cooled. It is, therefore, an important material for safety to public health through use in refrigerator linings, enameled sinks, cooking utensils, and numerous other applications.

The chemical work of the bureau was illustrated, in so far as it directly relates to safety, by a chart outlining various substances under investigation to determine the liability of their causing explosions or fires when in transit or contained in warehouses. Work of this character, while not lending itself so readily to exhibition methods as many others, is of great basic importance in leading to results tending to reduce fire and explosion dangers and thereby making transportation and storage more secure.

Bureau of Lighthouses.—The work performed by the Lighthouse Service in the saving of life and property consists mainly in safeguarding to navigation the navigable waters of the United States, including the outer coasts and the rivers and lakes. To accomplish this, there are in commission at present over 14,500 aids to navigation, including lighthouses, light vessels, fog signals, buoys and day-marks.

The most conspicuous feature of the lighthouse exhibit was a fourth order flashing lens in actual operation. The incandescent oil vapor lamp regularly used with this lens in service was displayed at one side and a small electric bulb substituted for demonstration purposes, as the 37,000 candle-power beam of light emitted when the former is employed would have been blinding to spectators. The purpose of the flashing lens for lighthouses is to furnish a light having a definite characteristic, enabling the mariner to positively identify the station and avoid the dangers incident to mistaking one light for another. By varying the arrangement of the lens panels and the time of revolution an unlimited number of characteristics may be produced. The driving mechanism, or clock, is operated by a falling weight and regulated by a friction governor which controls the speed very closely. Safety devices are used in connection with the lens to warn the light keeper when the apparatus is not in proper working order. One of these, a thermostat alarm, is placed above the lens and so adjusted that when a predetermined maximum or minimum temperature at a point just over the lamp is reached an electric bell is sounded, thus indicating that the lamp is too high or too low. Another device is attached to the clock which also rings an electric bell when the driving mechanism is operating too slowly.

The constantly increasing use of electricity, especially at non-attended stations, has resulted in the development of the electric lamp substituting device, which formed a part of the exhibit. The purpose of this apparatus is to automatically substitute another electric lamp in the focus of the lens, should the one in service burn out or break. This device is simple and positive in operation and provides two reserve lamps, thus materially increasing the efficiency of the station and reducing the chances of the light being out of commission.

The 6-inch automatic siren is one of the most powerful fog signals in use by the Service. It is operated by compressed air and is employed as a warning to mariners when the visual aids to navigation are obscured by fog or thick weather. Its note can be heard under favorable conditions for more than ten miles. The 8-day post lantern is a minor aid to navigation, and is especially designed to prevent the light from being extinguished in stormy weather. The lamp has two flat wicks and burns oil which is fed to the lamp from a reservoir containing a supply sufficient for a continuous burning of the lamp for 8 days.

Coast and Geodetic Survey.—The exhibit of the Coast and Geodetic Survey was planned to show in a popular manner the value of the nautical chart in preventing loss of life and property on the seas and inland waters. While it might have been limited to copies of charts with the announcement that by their use the navigator is enabled to locate the safe channels and waters and avoid the dangerous rocks and shoals, yet, as the work of chart construction is technical and the value of the chart is but vaguely understood by the public, it was deemed advisable to go somewhat into detail in regard to both of these matters. One of the most conspicuous placards showed that the chart is needed for safety first, because the travelers on steam vessels alone number over 300,000,000 annually; the value of commercial and naval vessels owned by the United States is over \$1,000,000,000; the value of imports and exports of the United States is over \$3,700,000,000 annually. Under this placard was placed a model of the wire drag which has located so many of the dangers that menace navigation. Another equally conspicuous placard stated that the chart shows for safety first safe channels and waters; buoys, beacons and land features for safety in daylight navigation; lights for night navigation; fog signals to guide when lights, buoys, beacons, land and sky are obscured; character and depth of water with dangers at all points to enable vessels safely to resume course if blown out by storm; variation of compass; tides and currents. Nearby were copies of charts by which the visitor could easily verify the statements made on the placard.

Inside of the booth on which the above were displayed were other large placards indicating by sketches and descriptions the evolution of the chart from the starting point in the field to the finished print. In front of each were arranged the instruments, etc., which are most prominently used in the work described. For determination of latitude and longitude, the meridian telescope, chronometer and chronograph were shown; for magnetism, the magnetometer; for triangulation, a base tape with attachments and the theodolite; for topography, the planetable, alidade and stadia rod; computing, a computing machine; compilation and drawing, a compilation sheet and a smooth drawing; engraving, the engraved copper plate; electrotyping, the "alto"; printing, prints direct from copper, by transfer from copper to aluminum and direct from drawing to aluminum. An aluminum plate was also included.

Among the charts were one of New York Harbor indicating the corrections necessary during one year; others showing changes in shore line that have occurred at New York Entrance, Assateague Anchorage and the Mississippi Delta; and typical charts of Portland Harbor, Boston Harbor, New York Entrance, Delaware Bay, Baltimore Harbor, Hampton Roads, Galveston and Port Arthur. A

model of Rock Creek Park illustrating the topographic work of the Survey attracted more than ordinary attention.

Bureau of Navigation.—The Bureau of Navigation exhibited a complete ship radio station, which consisted of a half kilowatt, type P, Marconi set, and 90 cells of Edison storage battery, type B4H-WS. This type of apparatus is installed on a number of the coastwise vessels, and has been found very efficient. The transmitter is arranged for three wave lengths—300, 450 and 600—which can be changed from one to another by the operation of one switch. It is supplied with a quenched gap and a rotary synchronous gap, either of which may be used by the changing of a switch. The parts which are liable to become defective are furnished in duplicate. A kit of tools with which the operator may make any necessary repairs, was also a part of the outfit. The present law requires “an auxiliary power supply, independent of the vessel’s main electric power plant, which will enable the sending set for at least four hours to send messages over a distance of at least one hundred miles, day or night, and efficient communication between the operator in the radio room and the bridge at all times.” The auxiliary power in this case is the Edison battery referred to above, which is of sufficient capacity to operate the transmitting apparatus as required by law, and also furnish power for lighting a number of emergency lights located in the passageways and on the decks of the vessel, as well as at other points where such lights are a necessity. The operation of the set was demonstrated during the exhibition, the transmitter being disconnected from the antenna to prevent interference. The receiver, however, was connected to a temporary antenna which made it possible to receive signals from Arlington and stations along the Atlantic coast. The time signals and weather reports were received daily at noon and at 10 o’clock at night.

In addition to the above there was shown in operation a Marconi induction coil, commonly known as a 10-inch coil, which was used for a considerable length of time as the principal transmitting apparatus on a large number of the transoceanic vessels and is now extensively employed as an auxiliary or emergency apparatus on many foreign ships. The steamship *Carpathia*, which went to the rescue of the *Titanic*, was equipped with this type. The use of the induction coil as an auxiliary on American vessels has, however, been discontinued, as the late model of the Marconi apparatus now being supplied has been found far more efficient.

Kolster decimeters, types A and B, were also exhibited. Type A, being a later development, is much lighter, more compact, and has a wider range of usage. The type B instrument is used for measuring wave lengths and decrement of transmitting stations requiring a

license, and has been employed by the Department for this work for more than three years. Type A, which is not yet in use, measures the wave lengths and decrement of ship stations, small experimental stations and amateur stations. In addition, the hot wire indicating instrument is so arranged as to make it possible to measure the voltage of storage batteries from zero to 7 volts and from zero to 150 volts, and the antenna current from zero to 25 amperes. The weight of this instrument is about one-third that of the instruments now used for the performance of this work.

The omnigraph, likewise represented, is a mechanical transmitter, sending the signals in the international or continental code, and is employed to give the code test in connection with the examination of radio operators, who, prior to operating a transmitting station, are required to pass an examination and secure a license.

Interesting pieces of obsolete apparatus displayed were the following: Gooseneck break key, one of the first keys used for breaking the antenna to coherer. Plain aerial receiving jigger for transformer, employed on American line ships in the early days of wireless with coherer set. Decoherer set complete, also belonging to the early days. Triple node X stopper or selective tuning device; used with magnetic detector for receiving, without use of ground, up to 180 meters on tune A. Oscillation transformer, the first made in America; built in 1902, for transmitting. Telephone employed in making tests on magnetic detector in the early wireless days. Magnetic detector; receiver in use following coherer sets.

Steamboat Inspection Service.—The objects of the Steamboat Inspection Service are to secure the safety of vessels, or to prevent the loss of life and property on board of vessels subject to its jurisdiction. Among the means resorted to are inspection of hulls, inspection of boilers, life-saving appliances, fire apparatus, equipment for signaling to other vessels, equipment for navigation, requiring officers to be licensed after sufficient experience and passing examination, rules for vessels in passing each other, and placards. The exhibits illustrating these several topics were as follows:

As relating to the inspection of hulls a blue print of a hull and a ship's auger bit were shown. The former or a drawing, together with the dimensions and a description of all of the principal parts of the hull, in the case of vessels of over 100 gross tons, require to be submitted by the owner for approval; the bit is used by the hull inspector to determine the condition of the wood by boring where necessary.

Pertaining to boiler inspection were a blue print of a boiler, test pieces of marine boiler plate, three kinds of hammers, a standardized test gauge, a dead-weight standard test gauge, three kinds of gauges for measuring the thickness of boiler plate, marine boiler plates riveted together, large rivets, a safety valve, water glass, try cocks,

fusible plugs, and test pieces of lap-welded boiler plate. Under the rules and regulations, the manufacturer is obliged to furnish a drawing of a boiler for approval by the local inspectors before it can be used on a steam vessel, the boiler inspector making and recording all necessary computations. The test pieces, five in number, represented passed and failed tensile tests, failed in elongation test, and passed and failed in bending tests. Detected by the use of the hammer, were several kinds of defective and condemned boiler material and links of steering chain. The tests, hydrostatic and steam, are applied previous to the use of the boiler and at each annual inspection, the gauge for the latter being compared with a dead-weight standard test gauge in the office of the inspector. The safety valve was sectional to show the interior and manner of operation, while the water glass was fitted with pull chains as a further safety device, enabling the steam to be shut off at a distance from the valves through which the glass is supplied in the event of the breaking of the latter. The subject of fusible plugs was extensively illustrated. One was shown through the failure of which to fuse 11 lives were lost on the steamship *Jefferson*, leading soon thereafter to the requirement of a test of the filling of the plugs by the Bureau of Standards.

Of life-saving appliances many different kinds were represented. Every inspected vessel is required to carry a life preserver for every person allowed to be carried, and heavy penalties are provided against the use of metal in their manufacture. The following were shown: A standard block-cork life preserver, with all required stamps, which had been used successfully by a survivor of the steamer *Tivoli* burned in Chesapeake Bay on the night of November 26, 1915, with a sea running about 4 feet high. New balsa-wood life preservers, one for an adult and one for a child, and two condemned life preservers. A section of a compressed cork life preserver unlawfully containing iron to make up the required weight of cork. Two illustrated placards explaining the adjustment of life preservers, such as are required to be posted on passenger steamers. Of ring life buoys there were one of cork, one of balsa-wood, and one with an acetylene light attached, this last, for night use, igniting on contact with the water and burning at least 45 minutes.

The display of lifeboats and apparatus connected with their use included the following: Englehardt collapsible lifeboat, which is practically a life raft with framework and heavy canvas sides that may be lowered or raised, and bottom filled with cork. Lundin lifeboats attached to Welin davits with non-toppling blocks, and a model of the latter showing how boats may be carried directly outboard from the ship's side by mechanical means. The Binks' and Marten-Freeman lifeboat davits, and three kinds of boat disengaging

apparatus, by means of which both ends of the boat are disengaged simultaneously by one man in the boat. A catamaran life raft, showing the interior construction, the cross bulkheads in the cylinders and the air-tight compartments. The equipment required for lifeboats on ocean steamers, indicated by a large number of articles. Also exhibited in this connection was a full-size Coston line-carrying gun with shot and line and full equipment, designed for throwing a line ashore from a stranded vessel or to another vessel, and for rigging the breeches buoy, etc.

Among the fire apparatus were hose, nozzle and blow-off valve, fire extinguishers, fire buckets, a water barrel and axes, and large photographs of fire pumps. The signaling equipment included a steamer's whistle, a mouth and a mechanical fog horn, a ship's bell, steamer's lights, and a collapsible black ball, which indicates that a steam vessel with funnel up is proceeding under sail only.

The equipment for navigation consisted of a compass, sextant, chronometer, patent log, hand lead and line, aneroid barometer, binocular and psychrometer. The last mentioned, consisting of wet and dry bulb thermometers, besides being useful for foretelling storms, is employed for determining the position of a vessel with respect to currents, icebergs and land. There were finally displayed the license forms issued to masters, mates, pilots and engineers, and the forms of certificate of efficiency to lifeboat men and of service as able seamen.

Though not included in the classified scheme of arrangement, this bureau exhibited a beautiful model of the steamship *Howard*, of the Merchants and Miners Transportation Company, running between Baltimore and Boston.

DEPARTMENT OF LABOR.

Bureau of Labor Statistics.—The principal feature of the exhibit of this bureau consisted of two groups of charts showing some of the more significant results of the bureau's current investigations of industrial hazards. The first group presented data regarding accidents and accident prevention in the iron and steel industry, while the second was concerned with the subject of early deaths—i. e., under 45 years—in the cotton manufacturing industry. In addition, there were several albums picturing safety devices used in the iron and steel industry, publications of the bureau relating to accidents and mortality, and a list of the publications upon these subjects contained in its library.

For a number of years the bureau has been conducting investigations of accidents in selected industries, reports of which have been published for the metal trades and for the iron and steel industry. A report on accidents in the machine-building industry is nearly

ready for publication, while a second and more comprehensive one for the iron and steel industry is in preparation. The charts on accidents and accident prevention were based largely upon data from the forthcoming iron and steel report with some comparative data from the machine-building report.

Of the 12 charts exhibited, the first four gave the results obtained in certain iron and steel plants where the efforts toward accident prevention had been most successful. Chart 1 showed for one large plant a gradual reduction of accident frequency from 370 cases per 1,000 employees in 1905 to 115 in 1913. Chart 2 indicated that this reduction occurred in all departments of the plant. Thus, the rate in blast furnace operations decreased from 429 to 132; in steel works, from 364 to 196; and in the mechanical employments, from 387 to 65. Chart 3 brought out the experience of another large plant in which the reduction in frequency rates was even more striking—from 323 in 1907 to 88 in 1913. Chart 4 contrasted conditions in a plant poorly organized for safety with one that was well organized. In the former the accident frequency rate was 510; in the latter, 134.

Charts 5 and 6 presented a method of calculating what are called "severity rates," based upon the economic time loss resulting from the various disabilities. Charts 7 and 8 were concerned with the causes of injury, and the frequency of injuries from various causes was contrasted with the severity of such injuries. Thus, falling and flying objects were shown to be responsible for 27 per cent of the injuries covered but caused only 23 per cent of the time loss. Cranes and hoists, on the other hand, with 9 per cent of the cases, caused 13 per cent of the time loss. In chart 9 the nature of injury was analyzed in a manner similar to that used in the analysis of causes of injury. Chart 10 elucidated the relative hazards of workers able to speak English and those not able to do so, as developed in the experience of one large steel plant. It was shown that the non-English speaking worker has the higher accident rates, both as to frequency and severity, and that the reduction in his accident rates has been much less rapid than in the case of the English speaking worker. Charts 11 and 12 brought out the relative hazards of day and night employment in a large steel plant. For each year of experience and for each department the accident rates for night work were shown to be higher.

A report upon the mortality of woman and child workers in the cotton industry has been published by the bureau, and a more comprehensive study of the death hazards in this industry, based upon investigation of all deaths in a large cotton manufacturing city over a period of several years, is now being prepared. This study is concerned primarily with the death hazard at early ages, the age of 45 years being taken as a conservative limit, the purpose being to ascer-

tain the prevalence of such deaths and to analyze their causes. The charts relating to death hazards in the cotton industry were based upon data developed in this connection.

It is believed that the subject of death hazards at early ages may, with entire propriety, be included under the general subject of safety. Whatever its form, death under the age of 45 is, in an important sense, accidental. That is to say, it is not due to a normal deterioration of vital powers but to more or less fortuitous circumstances, and very frequently, among wage earners, to distinct industrial conditions, such as unhealthy surroundings, unsafe work, industrial poisons. Death under such circumstances can be guarded against in very much the same manner as ordinary industrial accidents are guarded against. Its occurrence, indeed, may even be considered an industrial accident, using that word in a broad sense.

The four charts exhibited presented data regarding death hazards as related to the factors of age, sex, race and workroom. All made a separation of tuberculous and non-tuberculous causes of death. The chart on age showed that the greatest hazard from tuberculosis is at a somewhat higher age among males than among females. The chart on sex showed that, among married females under the age of 45, those working as cotton operatives have a very much higher death rate from both tuberculous and non-tuberculous causes than do non-operatives, and than prevails among males both operatives and non-operatives. The chart on race showed the death hazard to be highest among the Irish, both male and female, tuberculosis being a particularly significant factor. The chart contrasting the death rates in the different workrooms of the factory indicated that the hazard, as a whole, is greatest in the spinning room, but that for females the hazard from tuberculosis is slightly greater in the card room than in the spinning room.

Children's Bureau.—The main purpose of the exhibit of the Children's Bureau was to show the need for well-organized and continuous safety first campaigns, and to suggest that the best results are to be obtained by beginning this organization work with the children. Every child should grow up to enjoy manhood or womanhood, and there are good reasons for believing that instilling the rule of safety first in the minds of the children will assist in abolishing that by-product of our community life—the cripples and helpless wrecks who might have been strong men and women.

The arrangement of the exhibit was planned so as to bring home to the parents a realization of the dangers which surround their children in the home and on the street. Attention was also directed to the desirability of instilling in the minds of children the necessity for thinking and acting along lines of safety and caution in the home, on the street, and in the shop. The seriousness of the child street-

accident problem was illustrated in order to show the necessity for some solution and to make people realize how unprepared they have been, and still remain, for the rapid growth of the modern large city.

The exhibit consisted of panels, photographs, bulletins, colored posters, lantern slides accompanied by lectures, and motion pictures.

The panels were six in number and related to as many subjects, as follows: *Prenatal care*.—Illustrating the necessity for the exercise of caution by expectant mothers, by showing the health needs of these mothers and the results of neglecting to provide for these needs.

Birth registration.—Showing the necessity for safeguarding and protecting the baby's rights by the official registration of its birth.

Food.—Illustrating the importance of care in the matter of the baby's food and the reasons why breast feeding is best; a comparison of the results of artificial and breast feeding.

Ventilation.—Contrasting the results of safety first and neglect in the ventilation of baby's bedroom.

Ignorance and poverty.—Showing the difference in baby death rates in two different parts of the same town, and illustrating the fact that education and living wages for parents are essential to insure safety for their children.

Employment of mothers.—Illustrating by diagrams and pictures the effect upon the baby of the failure to apply the principles of safety first in the matter of the employment of mothers immediately before and after childbirth.

Sixty-three safety bulletins were exhibited. Many of these were illustrated and were suitable for posting in public places, schools, street railway stations, etc., to call attention to dangers from accidents on the streets, in the homes, and in the shops. There were 17 brilliantly colored posters and 12 black and white picture posters, with effectively worded titles illustrating in striking manner some of the commonest street accidents to children.

Twelve photographs showed some of the methods used in various communities for the prevention of accidents to children. A gallery of injured child workers contained 8 photographs of children who had received permanent partial injuries while engaged in industrial occupations in Massachusetts, with explanations of how the accidents occurred, and some illustrations of safety devices to prevent similar accidents.

A series of the bureau's publications, which deal with such subjects as prenatal care, infant care, baby-saving campaigns, etc., with an explanation of the method of obtaining copies and of how to be placed on the bureau's mailing list for future publications of a similar nature.

The lantern slides exhibited in the auditorium on February 24, Department of Labor Day, comprised 50 illustrating safety devices for insuring healthy babies, and 54 depicting the various kinds of street and home accidents which are happening to children every

day. The slides were explained by Mr. Bennet Mead, who also told of the devices for preventing similar accidents. On the same day, through the courtesy of the Washington Railway and Electric Company, which had leased the reel from the Vitagraph Company, this bureau was able to exhibit a motion picture entitled "The price of thoughtlessness," illustrating street accidents to children and the methods which the Brooklyn Rapid Transit Company is employing to organize the children of Brooklyn for the purpose of stimulating thought and study on the best means of accident prevention.

INTERSTATE COMMERCE COMMISSION.

The exhibit of the Interstate Commerce Commission included three perfect model cars fully equipped with all the safety appliances required by the Commission's order of March 13, 1911, a small model locomotive boiler arranged so as to illustrate the water circulation, as well as a number of excellent charts graphically setting forth the relative decrease in the number of casualties to railway employees since the passage of the Federal Safety Appliance and Boiler Inspection acts.

A model block signal system about 25 feet in length, illustrating the protection provided for by such a system, was in full operation. The model had two sidings and the system on exhibition was designed particularly to represent single track operation. Intermediate signals were shown between the block signals by means of lights, and the model was fully equipped with standard relays used with direct current operation and worked perfectly. Failed material that had been the cause of quite a number of accidents investigated by the Commission on account of transverse fissures in steel rails, as well as failed car wheels and failed bridge material, and material from failed locomotive boilers, were on exhibition. In addition to the failed material that had caused accidents a great number of test pieces that had been used in metallurgical work were also shown. Model couplers of a great many of the different types used on railroads, as well as emergency knuckles and other parts that are necessary in making repairs in case of the failure of the couplers, were likewise displayed.

Two hundred stereopticon views illustrating many of the accidents investigated by the Division of Safety and the Boiler Inspection Division of the Commission, shown on screens, were very instructive in elucidating the behavior of different types of equipment in various kinds of accidents, and what the improved equipment accomplished in reducing accidents.

METROPOLITAN POLICE DEPARTMENT.

The Police Department of the District of Columbia made a very effective display of its methods for securing safety on the streets of

Washington. These related chiefly to the regulation of traffic at street crossings and other places in congested sections of the city, and included several kinds of signal apparatus, some of which had been recently designed by the department. In the latter the colors green and red, spelling safety and danger, respectively, were used as well as the words "Go" and "Stop," and for the benefit of those who are color blind the green flanges were deeply notched at the end, while the red flanges were rounded. For night the colors are displayed in the form of a lantern. Among the placards was one reading "Street closed during recess," the embodiment of a comparatively recent safety first idea in connection with schools whose pupils are compelled to play in the street. The exhibit also included a model of the river police boat *Vigilant*, and others of the appliances used by the police to drag the waters of the District.

AMERICAN NATIONAL RED CROSS SOCIETY.

The first aid work of this society and its activities in times of calamity were illustrated by means of apparatus, models, and pictorial representations, forming, naturally, an interesting and instructive exhibition.

CENTENNIAL EXHIBITION BY THE COAST AND GEODETIC SURVEY.

The exhibition made by this Survey in connection with the exercises commemorating the one hundredth anniversary of its organization, held in the auditorium on April 5 and 6, 1916, was one of the most complete and instructive special displays ever installed in the Museum. The entire central hall in the ground story of the new building was utilized, giving ample space for an open and symmetrical arrangement, convenient for the visitor and attractive in appearance. The exhibition continued from April 5 to 10, was kept open during the evening of the first day, and served in a measure to illustrate the papers presented at the meetings. The following account is furnished by the Survey.

Briefly, the exhibition consisted of samples of the products of the bureau, the tools with which these products were made, and views of the processes.

The development of each particular instrument and process was illustrated, as far as possible, by the oldest and newest types of instrument or apparatus which have been and are now in use in this bureau, and by photographs or cuts showing the methods of using these instruments and appliances. Charts and maps were given a prominent place in the exhibition, and nearly all types which are now issued, or have been issued in the past, were included.

The instruments were arranged along the left side of the hall as approached from the street entrance. They were grouped in accordance with the particular kind of work for which they are used,

an effort being made to take up each step in the gathering of data for chart making in its logical sequence. The first group consisted of field astronomical instruments; the second, of magnetic surveying instruments; the third, of base measuring and triangulation instruments; the fourth, of hydrographic surveying instruments, including apparatus for recording and predicting tides; the fifth, of topographic surveying instruments; and the sixth, of leveling and gravity measuring instruments. The fifth group should have preceded the fourth in order to preserve exactly this program but the other arrangement was better suited to the space.

The charts and maps were fastened to screens and were arranged along the right side of the hall in two rows. As far as possible the oldest obtainable chart was placed beside a recent Coast and Geodetic Survey chart of the same locality. The knowledge of the coast of the United States before the creation of the Coast Survey was shown by a volume of the *Atlantic Neptune*, which contains about the best set of charts of that date.

The work of the officers of the Coast Survey during the Civil War was shown by a series of maps, sketches, and tracings which were prepared by these gentlemen for military purposes while attached to the staff of the various military and naval commanders.

The methods of printing charts were illustrated by an engraved plate and by a lithograph plate and stone. These were placed with the chart exhibit.

The progress of the surveys to date was shown by several base maps of the United States and possessions upon which the present extent of the surveyed areas was indicated in colors. These maps too were included with the charts on the right side of the hall, as were also several tables of statistics and various publications, including a full set of the Superintendent's annual reports, and samples of field and office records.

A set of more than one hundred enlarged prints from the collection of negatives in the office and from several private collections was displayed in cases arranged along the central line of the hall. These photographs depicted methods of transporting field outfits, usual and unusual methods of surveying, and camp and ship life.

On the columns, on each side of the hall, beginning at the first column on the left and ending at the first on the right, were hung in order of service, the photographs of the past Superintendents of the bureau.

The decoration of the space was confined to three spans of flags extending across the central aisle with the name of the bureau and the dates, 1816-1916, suspended against the first set of flags. The first span consisted of the Coast and Geodetic Survey flag and the Superintendent's flag; the second span, of two national ensigns; and the third span, of two Coast and Geodetic Survey flags.

A supply of each of the following publications, together with a program of the exercises held in the auditorium, were freely distributed: The work of the United States Coast and Geodetic Survey; Military and Naval Service of the United States Coast Survey; and the special chart of San Francisco, which was prepared for the Panama-Pacific International Exposition. Other publications were supplied on request, or if not on hand in sufficient quantities, were mailed from the office.

FRANCIS SCOTT KEY MONUMENT COMPETITION.

By an act of Congress approved July 29, 1914, the sum of \$75,000 was appropriated for the erection at Fort McHenry, Baltimore, Md., under the direction of the Secretary of War, of a monument in memory of Francis Scott Key, author of the Star-Spangled Banner, and the soldiers and sailors who participated in the battle of North Point and the attack on Fort McHenry in the War of 1812. Sculptors of established reputation, citizens of the United States, and architects whom they might associate with them in their work, were invited to submit designs. Thirty-four models, accompanied by drawings, were received, all of which were installed in the rotunda of the new building, as affording the most satisfactory accommodations available for their exhibition. Their arrangement was completed on May 2, but not until May 17, after the competition had been judged and the awards made, was the hall opened to the public, the models remaining on view until June 17.

Executed on a scale of $1\frac{1}{2}$ inches to the foot, the models quite fully occupied the rotunda floor, but notwithstanding this somewhat crowded condition the installation proved exceedingly effective, and its appearance was greatly enhanced by the presence of the actual Star-Spangled Banner, the flag that flew over Fort McHenry during the momentous battle of September 13 and 14, 1814, which was suspended from the upper gallery. The openings between the surrounding piers and columns were filled with tall palms, while an appropriate label for the flag and cards containing verses from the song of Francis Scott Key, framed in natural laurel leaves, were attached to the balustrade of the lower gallery.

This competition was one of the largest and most successful for a work of the kind that has ever been held in this country, and included designs of a highly artistic and meritorious character, four of which were given prizes and three received honorable mention. The first prize, carrying the acceptance of the design and the contract for erecting the memorial, was awarded to Mr. C. H. Niehaus, sculptor, of New Rochelle, N. Y., and Mr. E. V. Warren, architect, of Brooklyn, N. Y. The second prize, of \$800, was accorded to Mr. F. H. Packer, sculptor, and Mr. Albert R. Ross, architect; the third prize,

of \$500, to Mr. Henry Herring, sculptor, and Mr. Evarts Tracy, architect; and the fourth prize, of \$400, to Mr. J. Massey Rhind, sculptor, and Mr. A. R. Ross, architect. Those who obtained honorable mention were Mr. C. A. Heber, sculptor, and Armstrong & De Gelleke, architects; Mr. J. E. Fraser, sculptor, and Mr. A. R. Ross, architect; and Mr. Edward Berge, sculptor, of Baltimore, Md., and Mr. A. R. Ross, architect. All of the sculptors and architects named, unless otherwise stated, are of New York City.

INDUSTRIAL ART—THE AMERICAN FEDERATION OF ARTS.

An important loan exhibition of industrial art, similar in character to that held the year before, was assembled in the new building under the auspices of The American Federation of Arts and opened with a special view on the evening of May 17, 1916, the first meeting day of the seventh convention of that association. It occupied, as in 1915, the large main hall on the ground floor, together with five communicating rooms, and was continued for one month. The arrangements on the part of the Federation, which issued a brief catalogue of the exhibits, were conducted by its secretary, Miss Leila Mechlin, while the installation was chiefly made by employees of the Museum under the direction of Mr. William H. Holmes and Mr. F. L. Lewton.

Both hand and machine work were shown, and about 70 exhibitors participated, including some of the best known workers in art craft in the country. While the exhibition was not as large or comprehensive as could be wished for, a fairly high standard was maintained and in some respects the results were very gratifying. That it was appreciated was indicated by the large attendance of visitors at all times.

The central part of the main hall was mainly given over to an idealized garden effect, with pools of water and foliage, cedar trees, and numerous examples of decorative sculpture displayed with architectural setting. The sculpture pieces, with the exception of two taken from the collection in the Museum, were lent by the Gorham Co., of New York. They included a copy of "Victory," from the Sherman statue in New York, and of "The Standing Lincoln" in Chicago, both by Saint-Gaudens; "Spirit of Life," a figure of the Trask memorial at Saratoga, N. Y., by Daniel Chester French; "Infant Burbank," by Herbert Adams; "A Garden Figure," by James Earle Frazer; "Sea Weed Girl," by Janet Scudder; "Water Lily Mermaid," by Isabel Kimball; "Multonomah," by Herman A. MacNeil; "Pan of Rohaillon," by Frederick MacMonnies; and "Esmeralda," a piece of marble from the National Gallery, by Romanelli.

Except for 4 cases near the entrance, 2 of which contained a selection of lamps with variously colored and decorated shades, kept lighted during the hours of opening, and 6 cases at the southern end of this central space, the exhibits in the hall were arranged at the sides, between and adjoining the large piers and along the walls, and were as follows:

The pottery display was perhaps the largest and most notable. It included a fine collection of vases and tiles from the Pewabic Pottery, at Detroit, Mich.; 54 pieces of their artistic ware, from the Van Briggle Tile & Pottery Co., of Colorado Springs; 5 pieces of Byrdcliffe pottery, from Miss Penman and Mrs. Hardenberg; stoneware vases, jars, bottles, etc., from Prof. Charles F. Binns, of the New York State School of Clay at Alfred; a large number of examples from the Marblehead and Paul Revere potteries in Massachusetts, and the Newcomb Pottery at New Orleans; and bookends, lamps and vases from the Fulper Pottery Co., of Flemington, N. J. The Lenox Co., of Trenton, N. J., contributed a collection of china, fine both in texture and decoration; Mrs. Sarah Ryel Comer, of Dorchester, Mass., several cases of exquisite iridescent tinted glass and porcelain, in amber, copper blue, amethyst, green, yellow, etc.; the Tiffany Furnaces, at Corona, N. Y., a case of their beautiful favrile glass; and Dorflinger & Sons, of New York, examples of engraved, etched, cut, gilded, and painted glass.

The exhibit of metal work and jewelry, though restricted, was excellent both in design and workmanship. Karl Kipp, of East Aurora, N. Y., was represented by 4 pieces of hand-wrought copper; George P. Blanchard & Son, of Gardner, Mass., by silver spoons and forks and a mounted series showing 12 stages in the making of a hand-wrought spoon in sterling silver; Arthur J. Stone, of the same place, by 11 spoons and 2 silver bowls of exquisite design; and George E. Germer, of Boston, by a bronze cast of the Proctor Memorial Tablet at Princeton University. The jewelry, consisting of necklaces, pendants, pins, rings, cuff buttons and a silver jewel case, was from Frank Gardner Hale and Margaret Rogers, of Boston; Grace Hazen, of New York; Herbert Kelly, of Croton-on-Hudson, N. Y., and James H. Winn, of Chicago.

The contributions in the line of textiles and needlework included coverings, towels and centerpieces, from the Hearthside Looms, Pawtucket, R. I.; Italian, English Cripple School and Old Colony Union needlework, from the Old Colony Union, Bourne, Mass.; 9 pieces of embroidery, from the Scuola d'Industria Italiana, New York; spreads, rugs, quilts and other objects made in the homes of the southern mountaineers, from the Southern Industrial Educational Association of Washington; examples of hand weaving and art dyeing and a hand

loom, from Neighborhood House, Washington; stenciled linen draperies and machinery embroidery on linen, from the United Arts and Crafts Workers, of New York; unbleached linen embroidered in colors, from Newcomb Memorial College, New Orleans; samples of stenciled textiles, from Miss Fayette Barnum, of New York; and hand-made lace in collars and bolts, from the Minnesota Lace Workers, Minneapolis, Minn.

Basketry of various shapes and designs was shown by Mrs. Helen T. Smith and Miss Mae Noel, of Washington. Mural decoration was represented by two paintings and three framed pictures of interiors, contributed by Louis C. Tiffany, of New York; and by a model showing the possibilities in that direction, sent by the Co-operative Mural Workshops, of New York.

All of the exhibits other than the above were installed in the several rooms. Room 38 was devoted to machine-made textiles. Rugs, handsome in design, contributed by M. J. Whittall, of Worcester, Mass., covered the walls; while in cases were shown silks, lent by F. Schumacher & Co., of New York, representing reproductions of early Italian and French designs; brocades from Cheney Brothers, of New York; and laces from the Quaker Lace Co., of Philadelphia. The last consisted of a representative collection of window lace, each number being selected with the idea of illustrating the various fabrics and design possibilities of modern machine-made curtain material. The exhibit was in two groups, one showing lace curtains manufactured to sell by the pair, the other "craft lace" made to sell by the yard.

Room 39 was given over to the exhibition of work done in some of the leading art schools of the country, which were represented as follows: The Pennsylvania Museum and School of Industrial Art, of Philadelphia, by examples of interior decoration, mural painting, furniture, illustration, cement work and modeling, costume design, pottery, tiles and mosaic, ironwork and design; the Teachers' College, Columbia University, New York, by designs, posters, block printing, textiles and painted boxes; the Handicraft School, of Washington, by bookbinding, metal work and jewelry, wood carving and gesso, freehand batik and tied and dyed work, baskets and hand weaving; the School of Fine Arts, Crafts and Decorative Design, of Boston, by designs for tapestries, and museum studies and designs showing museum influence; the Chicago School of Applied and Normal Art, by designs and cloth prints; and the New York School of Applied Design for Women, by historic ornament. Belonging in this class, but installed in the central hall, was a display of textiles and stenciled fabrics from the Philadelphia Textile School.

Room 46 was occupied by a variety of exhibits. Printing was represented in the form of booklets, cards, circulars, catalogues, folders,

labels, wrappers, stationery, menus and dull-finished printing, mounted on 37 wood panels, assembled and lent by the American Institute of Graphic Arts, of New York. Examples of wrought-iron work in locks, hinges, latches, knockers, etc., as well as designs, were shown by Samuel Yellin, of Philadelphia; and two fine specimens of wood carving, an oak figure and large panel, were contributed by I. Kirchmayer, of East Cambridge, Mass. Of stained glass there were two panels, one by Charles J. Connick, of Boston, for which he received a medal at the recent Panama-Pacific Exposition; the other, together with a number of designs, received from The Willet Stained Glass & Decorating Co., of Chestnut Hill, Pa. There was also included willow furniture from the McHugh Willow Furniture Co., painted furniture from the Co-operative Mural Workshops, and several mirrors, from the Delft Sectile & Importing Co., all of New York.

Rooms 44 and 45 were fitted up, respectively, as a colonial or early American dining room, and a living room in the Adam style. Each contained a mantel and fireplace, one with a pair of andirons the other with an old cast-iron grate, and both with fender and fire tools, supplied by Arthur Todhunter, of New York. The furniture in both, lent by W. B. Moses & Sons, of Washington, was of mahogany and machine made, and represented the best output of several native factories; while the windows in the dining room were hung with scrim curtains provided by the same firm, and in the living room with stenciled and embroidered curtains by Miss Lydia Bush-Brown, of Washington. The dining room contained a three-fold woven fire screen by Katherine Penn Crawford, of Warrenton, Va.; and upon the walls in both were colored drawings and photographs of designs for interior decoration, furnished by the William M. French Co., of Minneapolis, Minn., and Miss Gheen, of New York. In the living room a secretary and bookcase were filled with books, and there were some very admirable examples of handbound volumes and leather work by Miss Marian Lane, of Washington, and Miss Elsie Ingle, of Baltimore. Besides the above, lamps, clocks and other small objects, necessary complements to the furnishing of such rooms, were also made use of in completing their appointments, the entire arrangement of which was most satisfying to the best artistic sense.

Awards, in two classes, for work of distinguished merit among the exhibits were announced by the Federation as follows: Special honors to Frank Gardner Hale for his group of jewelry, Prof. Charles F. Binns for a group of vases, Samuel Yellin for work in wrought iron, I. Kirchmayer for wood carving, and Miss Marian Lane for book-binding. Honorable mention to Miss Grace Hazen for a necklace of gold and opal, Herbert Kelly for a necklace of gold and tourmalines, the Marblehead Potteries for pottery and tiles, and the Pewabic Pottery for a group of vases and tiles. Special commendation was also made of exhibits by the Fulper and Newcomb potteries.

INDUSTRIAL WORK BY THE CHILDREN OF THE PLAYGROUNDS.

The annual exhibition of the industrial work of the children of the Washington playgrounds was held during October and November, 1915, in one of the textile halls in the older Museum building. It consisted of an attractive collection of kindergarten work, reed and raffia basketry, crocheting, knitting, plain sewing, embroidery, and tatting.

Industrial work is offered the children on the playgrounds, at their request, as a diversion when tired of playing ball, tennis, or other games, those preferring to make baskets, for instance, being supplied with the raffia, reed, needles, etc., and taught their use, other subjects being treated in the same way. These occupations are provided simply as a part of the amusement of the day, and the children who become interested in creating something with their hands are encouraged to complete whatever they have begun so that they may take it home to show their parents and keep as their own.

During the three summer months of 1915, 1,257 boys and girls between the ages of 3 and 17 were given instruction in this industrial work, meeting once a day on the several playgrounds. The entire expenditure for supplies was \$265.50, making the cost per child about 21 cents. In the latter part of September each playground held an exhibition of its individual work, and from each of these the best pieces were selected for the joint display at the Museum. Eleven of the city's 12 playgrounds, 3 of them colored, were represented at the latter, as was also the single playground of Alexandria, Va., which is managed by a group of public-spirited women of that place. A great deal of the work had been done by very small children, and many found a ready sale for articles they had made. The showing in basketry by both boys and girls was especially creditable, several of the designs being entirely original.

The industrial feature of the playground movement, so well illustrated in the Museum exhibition, has proved exceedingly popular. That it serves a useful purpose in teaching the child to turn his hands to things of real value, while giving congenial employment, is beyond question. The exhibition was in charge of Miss Ella Gardner, director of girls' activities.

MISCELLANEOUS.

VISITORS.

The attendance of visitors at the new building for the year aggregated 316,707 for week days and 64,521 for Sundays, being a daily average of 1,012 for the former and of 1,240 for the latter. For the older Museum building, which is only open on week days, the total

was 146,956 and the daily average, 469. The halls in the Smithsonian building, which were closed for renovation during more than four months, had 48,517 visitors. The attendance in the new building was especially large during the week of the Grand Army Encampment, September 27 to October 2, and again during the "Safety first" exhibition, February 21 to 27.

The following tables show, respectively, the attendance of visitors during each month of the past year, and for each year since 1881, when the older Museum building was first opened to the public:

Number of visitors during the year ending June 30, 1916.

Year and month.	Older Museum Building.	New Museum Building.	Smithsonian Building.	Year and month.	Older Museum Building.	New Museum Building.	Smithsonian Building.
1915.				1916.			
July.....	11,524	22,941	3,186	January.....	6,240	18,810	3,911
August.....	16,568	30,591	(¹)	February.....	8,474	50,144	4,583
September.....	21,265	41,497	(¹)	March.....	7,974	25,735	6,017
October.....	15,738	33,582	(¹)	April.....	16,949	43,352	10,854
November.....	10,115	25,926	(¹)	May.....	11,497	35,292	7,326
December.....	7,385	22,722	5,067	June.....	13,227	30,636	7,573
				Total.....	146,956	381,228	48,517

¹ The exhibition halls in the Smithsonian building were closed to visitors from July 20, 1915, until Dec. 1, 1915, on account of the repairs in progress in the main hall of that building.

Number of visitors to the Museum and Smithsonian Buildings since 1881.

Year.	Older Museum Building.	New Museum Building.	Smithsonian Building.	Year.	Older Museum Building.	New Museum Building.	Smithsonian Building.
1881.....	150,000	.....	100,000	1899-1900.....	225,440	.....	133,147
1882.....	167,455	.....	152,744	1900-1.....	216,556	.....	151,563
1883.....	202,188	.....	104,823	1901-2.....	173,888	.....	144,107
1884 (half year).....	97,661	.....	45,565	1902-3.....	315,307	.....	181,174
1884-85 (fiscal year).....	205,026	.....	105,993	1903-4.....	220,778	.....	143,988
1885-86.....	174,225	.....	88,960	1904-5.....	235,921	.....	149,380
1886-87.....	216,562	.....	98,552	1905-6.....	210,886	.....	149,661
1887-88.....	249,665	.....	102,863	1906-7.....	210,107	.....	153,591
1888-89.....	374,843	.....	149,618	1907-8.....	299,659	.....	237,182
1890-90.....	274,324	.....	120,894	1908-9.....	245,187	.....	198,054
1900-91.....	286,426	.....	111,669	1909-10.....	228,804	50,403	179,163
1901-92.....	269,825	.....	114,817	1910-11.....	207,010	151,112	167,085
1892-93.....	319,930	.....	174,188	1911-12.....	172,182	281,887	143,134
1893-94.....	195,748	.....	103,910	1912-13.....	173,858	319,806	142,420
1894-95.....	201,744	.....	105,658	1913-14.....	146,533	329,381	102,645
1895-96.....	180,505	.....	103,650	1914-15.....	133,202	321,712	40,324
1896-97.....	229,606	.....	115,709	1915-16.....	146,956	381,228	48,517
1897-98.....	177,254	.....	99,273				
1908-99.....	192,471	.....	116,912	Total.....	7,727,732	1,835,529	4,580,933

BEQUESTS.

The Museum has had as loans for many years two very important collections belonging to Dr. Charles Upham Shepard, of Summerville, S. C., chemist and mineralogist, widely known for his preeminent part in the development of the phosphate industry in South Carolina, and for his successful experiments and practical results in tea culture at "Pinehurst," his Summerville home. One of these collections comprises about 5,000 specimens of minerals, which had been assembled by the distinguished father of Dr. Shepard, of the same name. The other is an exceedingly valuable series of meteorites, very rich in type and described material. Begun by the elder Shepard, it was extended by the son, and now includes examples of 234 falls and finds, several of which are unique or of exceptional rarity.

Dr. Shepard passed away on July 4, 1915, and in his will, admitted to probate on the 10th of the same month, was found a gratifying expression of his interest and his faith in the future of the National Museum, which is designated as the appropriate place for the permanent preservation of these collections. Although the execution of this document was not accomplished until after the close of the fiscal year, it is possible here to say that the meteorites have been definitely transferred to the Museum, while the minerals continue on deposit. The two articles of the will comprehending these bequests are as follows:

18. Should the assets of my estate be sufficient to pay all of the legacies specified in this my last Will and Testament, and conditionally upon such event, I give and bequeath to the United States National Museum at Washington, District of Columbia, U. S. A., my collection of meteorites now deposited in said institution as a Memorial of the labors of my father, Charles Upham Shepard, with request the said collection be hereafter preserved therein intact; and I also give to the said United States National Museum at Washington, District of Columbia, my father's correspondence and books pertaining to meteorites heretofore loaned to it.

19. I give to my Executors hereinafter named my collection of minerals together with the cases which contain them, together with the bound catalogue made by my father, and also all of my unset gems now loaned to the United States National Museum in Washington, District of Columbia, U. S. A. for the purpose of being given to that one of my nephews the sons of Louis Shepard DeForest or Edith James Wallach who shall first in the judgment of said Executors, develop a taste for mineralogy sufficiently attested by study and practice therein, otherwise the aforesaid collection of minerals together with the specific property mentioned in this paragraph to be retained by the aforesaid United States Museum at Washington.

In the report for 1914 announcement was made of two bequests by the late Dr. Leander Trowbridge Chamberlain in the sums of \$25,000 and \$10,000, respectively, to be known as the Frances Lea Chamberlain funds, the income of the former to be used for promoting the increase and the scientific value and usefulness of the Isaac Lea collection of gems and gem materials, and of the latter, for promoting the scientific value and usefulness of the Isaac Lea collection of

mollusks. There has been a delay in the settlement of the amounts so devised, but during last year \$10,000 was received from the executor on account.

PUBLICATIONS.

Eight volumes and 52 separate papers were issued during the year. The volumes consisted of the annual report of the Museum for 1915, volumes 48 and 49 of the Proceedings, and the following Bulletins: No. 50, Part VII, "The birds of North and Middle America," by Robert Ridgway, containing descriptions of the cuckoos, parrots and pigeons; No. 91, "Report on the Turton collection of South African marine mollusks, with additional notes on other South African shells contained in the United States National Museum," by Paul Bartsch; No. 92, "Bibliographic index of American Ordovician and Silurian fossils," in 2 volumes, by Ray S. Bassler; and No. 94, "Handbook and descriptive catalogue of the meteorite collections in the United States National Museum," by George P. Merrill. Bulletin No. 70, entitled "The National Gallery of Art," by Richard Rathbun, issued in 1909, was reprinted in a small edition, with information and catalogues revised to January, 1916. Bulletins No. 39 (Part A), "Directions for collecting birds," and No. 67, "Directions for collecting and preserving insects," were also reprinted to enable the Museum to meet the constant demand for them. Of the 52 papers issued in separate form, 1 belonged to Volume 16, 3 to Volume 17 and 2 to Volume 18 of the series "Contributions from the U. S. National Herbarium," while 38 were from Volume 49 and 8 from Volume 50 of the Proceedings.

The distribution of volumes and separates to libraries and individuals on the regular mailing lists aggregated 61,638 copies, in addition to which some 12,160 copies of the publications of last and previous years were supplied in response to special applications.

Besides the Museum publications many contributions based on material in its collections were printed by other bureaus of the Government and by private institutions, all of which are cited in the bibliography. Those issued by the Smithsonian Institution were "Evidences of primitive life," by Charles D. Walcott, in the Report for 1915; Bulletin 62 of the Bureau of American Ethnology, entitled "Physical anthropology of the Lenape or Delawares, and of the eastern Indians in general," by Aleš Hrdlička; "Sources of nitrogen compounds in the United States," by Chester G. Gilbert; and the following which appeared in the Miscellaneous Collections: "A phylogenetic study of the recent crinoids, with special reference to the question of specialization through the partial or complete suppression of structural characters," by Austin H. Clark; "The jaw of the Piltdown man," by Gerrit S. Miller, jr.; "Descriptions of seven

new subspecies and one new species of African birds (plantain-eater, courser and rail)," by Edgar A. Mearns; "Descriptions of a new genus and eight new species and subspecies of African mammals," by N. Hollister; "Three new African shrews of the genus *Crocidura*," by N. Hollister; and "Explorations and field-work of the Smithsonian Institution in 1915."

The editorial office, besides supervising the printing of the Museum publications, also has charge of all miscellaneous printing and binding.

LIBRARY.

The library received 1,895 volumes, 2,873 pamphlets and 72 parts of volumes, and at the close of the year comprised 47,713 volumes and 79,241 pamphlets and unbound papers.

Besides the acquisitions by purchase and exchange, there were many important gifts. The entire scientific library of the late Dr. Theodore N. Gill was presented to the Smithsonian Institution by his brother and administrator, Mr. Herbert A. Gill, with the understanding that such works as pertain to museum subjects should be assigned to the Museum. The collection, which is extensive, has been only partly gone over, but it appears that the Museum's share will add many titles in natural history, especially ichthyology. Only a small portion of this contribution is included in the above enumeration. A number of publications were also received from the estate of the late Dr. C. A. Peale. The noteworthy sectional library on mollusks, which has been mainly built up through his efforts and generosity, was again indebted to Dr. William H. Dall to the extent of 207 titles. Other contributors, members of the staff or collaborators of the Museum, were Dr. E. A. Mearns, Dr. Charles D. Walcott, Dr. Walter Hough, Mr. William R. Maxon, Dr. O. P. Hay, Dr. F. A. McDermott and Dr. F. P. Dewey.

EXPOSITIONS.

The exhibits installed by the National Museum at the Panama-Pacific International Exposition at San Francisco which opened on February 20, 1915, as described in the last report, continued to attract much attention and to be the subject of favorable comment during the entire period of the exposition, which closed on December 4. The packing of the material for reshipment to Washington had been well advanced when Congress, by joint resolution, directed that the Government exhibit, or such parts of it as the President might deem advisable, "be transferred to the Panama-California International Exposition during its continuance at San Diego, Cal., until not later than December 31, 1916." As only 4,000 square feet of floor space, in the Science and Education Building, were available for the Smithsonian Institution at San Diego, but a part of the ex-

hibit at San Francisco could be accommodated, and a selection was made of ethnological material from the Museum collection, all of the other exhibits under the Institution being returned to Washington, mainly in a naval collier, but partly by railroad.

The ethnological installation made at San Diego embraced the four large family groups mentioned in the report for 1915, representing, respectively, the western or Alaskan Eskimo, the Zulu-Kaffirs of the semi-arid southern extremity of Africa; the Caribs of the interior of British Guiana, and the Dyaks who live along the rivers of the interior of the Island of Borneo, besides dwelling groups in miniature illustrating the architecture and village life of many widely separated Indian tribes and other aboriginal peoples of the world, and four cases of specimens representing their arts, industries, etc. In addition, a set of framed lithographs of Catlin's North American Indian paintings, including portraits, scenes, dances, etc., executed in the fourth decade of the last century, were used for decorating the walls. The arrangements at San Diego, as at San Francisco, were directed by Mr. W. de C. Ravenel, the representative of the Smithsonian Institution, the installation being made by Dr. Walter Hough, curator of ethnology in the Museum, assisted by Mr. W. H. Egberts and Mr. F. H. Cole. These were completed in February, 1916, and the exhibits immediately opened to the public.

ORGANIZATION AND STAFF.

There were few changes during the year in connection with the scientific staff. Mr. Carl W. Mitman was appointed assistant curator in the division of mineral technology on July 16, 1915; Mr. Charles E. Resser, assistant curator, and Mr. Herbert D. Chabot, aid, in the division of paleontology on October 16, 1915; Mr. Harry R. Rosen, aid in the division of plants on October 1, 1915, and Miss Pearl L. Boone, aid in the division of marine invertebrates on February 1, 1916. The following were temporarily employed, namely, Mr. Philip Dowell as an assistant curator of plants for two months from July 1, 1915; Miss Mary F. Miller as assistant botanist for the same length of time from the middle of April, 1916; and Mr. Isaac Ginsburg as aid in the division of fishes for an indefinite period from May 1, 1916. Dr. P. E. Garrison, U. S. Navy, who had been serving for several years as an assistant custodian in the section of helminthological collections, having been detached from duty in Washington, severed his connection with the Museum from July 1, 1915.

By the death on November 10, 1915, of Dr. Edward Lee Greene, the Museum lost one of the most learned and distinguished members of its staff, and a gap was created in the ranks of American botanists, which, it has been said, can never be filled. Dr. Greene was born in Hopkinton, R. I., August 20, 1843. After serving in the

Civil War, he entered Albion College, Wisconsin, from which he was graduated as bachelor of philosophy in 1866. The degree of doctor of laws was conferred upon him by Notre Dame in 1895. Dr. Greene was instructor in botany and German at Albion College from 1866 to 1868, and taught botany at Jarvis Hall, Golden City, Colo., in 1871 and 1872. He became connected with the University of California, first as lecturer in botany in 1882, then as instructor and finally, in 1890, as full professor. He resigned this position in 1895 to accept the professorship of botany in the Catholic University of America at Washington, D. C., which he held until 1904. In this year he was designated an associate in botany in the National Museum, and subsequently he gave much of his time to the writing of "The landmarks of botanical history," of which the first part has been published by the Smithsonian Institution. Work on the second part was in progress at the time of his death.

THE MUSEUM STAFF.

[June 30, 1916.]

CHARLES D. WALCOTT, Secretary of the Smithsonian Institution, Keeper *ex officio*.

RICHARD RATHBUN, Assistant Secretary, in charge of the United States National Museum.

W. DE C. RAVENEL, Administrative Assistant.

SCIENTIFIC STAFF.

DEPARTMENT OF ANTHROPOLOGY:

William H. Holmes, Head Curator.

Division of Ethnology: Walter Hough, Curator; Neil M. Judd, Aid; J. W. Fewkes, Collaborator; Arthur P. Rice, Collaborator.

Division of American Archeology: William H. Holmes, Curator; E. P. Upham, Aid; J. D. McGuire, Collaborator.

Division of Old World Archeology: I. M. Casanowicz, Assistant Curator.

Division of Physical Anthropology: Aleš Hrdlička, Curator; R. D. Moore, Aid.

Division of Mechanical Technology: George C. Maynard, Curator.

Division of Graphic Arts: Paul Brockett, Custodian; Ruel P. Tolman, Aid.

Section of Photography: T. W. Smillie, Custodian.

Division of History: A. Howard Clark, Honorary Curator; T. T. Belote, Assistant Curator.

Associates in Historic Archeology: Paul Haupt, Cyrus Adler.

DEPARTMENT OF BIOLOGY:

Leonhard Stejneger, Head Curator; James E. Benedict, Chief of Exhibits.

Division of Mammals: Gerrit S. Miller, jr., Curator; Ned Hollister, Assistant Curator.

Division of Birds: Robert Ridgway, Curator; Charles W. Richmond, Assistant Curator; J. H. Riley, Aid.

Division of Reptiles and Batrachians: Leonhard Stejneger, Curator; R. G. Paine, Aid.

Division of Fishes: Barton A. Bean, Assistant Curator.

Division of Insects: L. O. Howard, Honorary Curator; J. C. Crawford, Associate Curator.

Section of Hymenoptera: J. C. Crawford, in charge.

Section of Myriapoda: O. F. Cook, Custodian.

Section of Diptera: Frederick Knab, Custodian.

Section of Muscoid Diptera: C. H. T. Townsend, Custodian.

Section of Coleoptera: E. A. Schwarz, Custodian.

Section of Lepidoptera: Harrison G. Dyar, Custodian.

Section of Orthoptera: A. N. Caudell, Custodian.

Section of Hemiptera: Otto Heidemann, Custodian.

Section of Forest Tree Beetles: A. D. Hopkins, Custodian.

Division of Marine Invertebrates: Paul Bartsch, Curator; William H. Dall, Honorary Curator of Mollusks; Waldo L. Schmitt, Assistant Curator; Austin H. Clark, Assistant Curator; William B. Marshall, Assistant Curator; C. R. Shoemaker, Aid; Miss Pearl L. Boone, Aid; H. K. Harring, Custodian of the Rotatoria; Harriet Richardson Searle, Collaborator; Mary Breen, Collaborator.

Section of Helminthological Collections: C. W. Stiles, Custodian; B. H. Ransom, Assistant Custodian.

DEPARTMENT OF BIOLOGY—Continued.

Division of Plants (National Herbarium): Frederick V. Coville, Honorary Curator; W. R. Maxon, Associate Curator; P. C. Standley, Assistant Curator; Harry R. Rosen, Aid.

Cactaceæ, Crassulacæ, and Miscellaneous Mexican Collections: J. N. Rose, Custodian.

Section of Grasses: Albert S. Hitchcock, Custodian.

Section of Cryptogamic Collections: O. F. Cook, Assistant Curator.

Section of Higher Algae: W. T. Swingle, Custodian.

Section of Lower Fungi: D. G. Fairchild, Custodian.

Section of Diatoms: Albert Mann, Custodian.

Associates in Zoology: C. Hart Merriam, W. L. Abbott, Edgar A. Mearns, United States Army (retired), Mary J. Rathbun.

Associates in Botany: John Donnell Smith, J. N. Rose.

DEPARTMENT OF GEOLOGY:

George P. Merrill, Head Curator.

Division of Physical and Chemical Geology (Systematic and Applied): George P. Merrill, Curator; James C. Martin, Assistant Curator.

Division of Mineralogy and Petrology: F. W. Clarke, Honorary Curator; Edgar T. Wherry, Assistant Curator; Douglas B. Sterrett, Custodian of Gems and Precious Stones.

Division of Paleontology: R. S. Bassler, Curator; Charles E. Reeser, Assistant Curator.

Section of Invertebrate Paleontology: T. W. Stanton, Custodian of Mesozoic Collection; William H. Dall, Associate Curator of Cenozoic Collection; T. Wayland Vaughan, Custodian of Madreporarian Corals.

Section of Vertebrate Paleontology: James W. Gidley, Assistant Curator of Fossil Mammals; Charles W. Gilmore, Assistant Curator of Fossil Reptiles.

Section of Paleobotany: David White, Associate Curator; F. H. Knowlton, Custodian of Mesozoic Plants; Herbert D. Chabot, Aid.

Associates in Paleontology: Frank Springer, E. O. Ulrich.

DIVISION OF TEXTILES:

Frederick L. Lewton, Curator.

Section of Wood Technology: George de S. Canavarro, Assistant Curator.

DIVISION OF MINERAL TECHNOLOGY:

Chester G. Gilbert, Curator; C. W. Mitman, Assistant Curator.

NATIONAL GALLERY OF ART:

William H. Holmes, Curator.

ADMINISTRATIVE STAFF.

Chief of Correspondence and Documents, R. I. Geare.

Disbursing Agent, W. I. Adams.

Superintendent of Buildings and Labor, J. S. Goldsmith.

Editor, Marcus Benjamin.

Editorial Clerk, E. S. Steele.

Assistant Librarian, N. P. Scudder.

Photographer, T. W. Smillie.

Registrar, S. C. Brown.

Property Clerk, W. A. Knowles.

Engineer, C. R. Denmark.

LIST OF ACCESSIONS TO THE COLLECTIONS DURING THE FISCAL YEAR 1915-1916.

[Except when otherwise indicated, the specimens were presented, or were transferred by bureaus of the Government in accordance with law.]

ABBOTT, DR. WILLIAM L.: 34 ethnological specimens, 465 mammals, 869 birds, 50 reptiles, a starfish, mollusk and eel, and a specimen of copper-lead ore, collected by Mr. H. C. Raven in Celebes and Borneo (58619); 3 birds and 3 small mammals from Norway, and a small mammal from England (58624); 183 mammals, 2 birds and a sack of tree seeds (59435). (See under Kloss, C. Boden.)

ACADEMY OF NATURAL SCIENCES, Philadelphia, Pa. (through Mr. Clarence B. Moore): Collection of miscellaneous bones, principally of mammals (58622).

ADAMS, WARREN P., Newtown, Pa.: Specimen of a plant, *Cuphea*, from Pennsylvania (59046).

AGRICULTURE, DEPARTMENT OF:

Bureau of Biological Survey: 168 specimens of plants from Arizona and Nevada, collected by Mr. E. A. Goldman (58542, 59352, 59800, 59906); 4 prairie dogs, consisting of 2 specimens of *Cynomys gunnisoni* and 2 of *C. ludovicianus* (58547, 58552); about 115 mollusks from British Columbia and Oregon, collected by Mr. E. A. Preble (58598, 58857), 5 fishes, a dried head of a fish, 2 crustaceans and 2 scorpions, collected by Mr. Preble in Oregon (58926, 58984); about 750 Diptera, including paratypes of *Culicoides hieroglyphica*, *Tanytus illinoiensis*, *Chironomus dimorphus* and *C. fuscicornis* (58687); 4 black-spotted trout, *Salmo pleuriticus*, collected by Mr. E. G. Holt in Nye County, Nev. (58702); turtle, *Chrysemys bellii*, collected by Mr. Remington Kellogg at Grinnell, N. Dak. (58777); 349 specimens of plants collected in

AGRICULTURE, DEPARTMENT OF—Contd.

South Carolina, Kentucky, and Tennessee by Mr. C. P. Alexander (58972); fossil turtle collected by Mr. H. H. Sheldon 15 miles south of Imlay, S. Dak. (59084); skin and skull of tayra, *Galictis*, from Peru (59133); 24 specimens of plants collected in Wyoming by Mr. Vernon Bailey (59174); 316 specimens of plants from Alabama, Maine, and Massachusetts (59223, 59246); 8,110 North American mammals, 5,986 of which are alcoholic, collected by the Survey (59284, 59920); 309 fishes collected in Mexico and other localities, an axolotl from Mexico and a snail from British Columbia (59367); 385 specimens of plants collected in Nebraska by Mr. Ray Thomson (59441); types of insects, *Cicada cultriformis*, *Diaphorus nudus*, *Botanobia insularis*, *B. proxima*, *Culicoides hieroglyphica* and *Chironomus utahensis* (59483); 7 amphipods, consisting of 4 specimens of *Gammarus locusta* from Matinicus Island, Me., and 3 of *Hyaella azteca* from South Cody Lake, Nebr. (59527); 178 reptiles and batrachians from various localities (59921).

Bureau of Entomology: 3 turtles, *Gopherus polyphemus*, from Mississippi, collected by Mr. D. L. Van Dine (58558); 230 Miocene insects from Florissant, Colo. (58956); 6 earthworms collected at Bethesda, Md. (59076); about 375 Diptera and 20 miscellaneous insects, collected by Mr. August Busck in the Hawaiian Islands, and 5,000 Lepidoptera (59485); 25 insects collected by Mr. F. N. Meyer in Mokanshan, China,

AGRICULTURE, DEPARTMENT OF—Contd.
and a small collection made by him at Nanking, China (59490); larvæ, eggs and pupæ of ground beetles, *Calosoma*, bred at the Gypsy Moth Laboratory, Melrose Highlands, Mass. (59501); about 100 bees from Cranmoore, Wis. (59561); 13 specimens of plants from Georgia and Florida (59766); 2 earthworms, *Helodrilus chloroticus*, from Washington, D. C. (59778); 7 specimens of plants from Oklahoma (59839).

Forest Service: 2 rocks showing boring of pholad mollusks on the California coast, collected by Mr. Carl A. Kupfer (58770); sections of long-leaf pine trunks illustrating the box, cup and gutter, and Forest Service methods of turpentine, samples of gum, scrape and rosin, and examples of the tools used in obtaining turpentine, received through Mr. Inman F. Eldredge, supervisor, Florida National Forest (59881, collected for the Museum).

Bureau of Plant Industry: 5 specimens of plants from Santa Lucia (58565), 400 from California, collected by Mr. G. N. Collins and Mr. J. H. Kempton (58635, 59300), 33 from Illinois (58647); 2,983 mounted specimens of grasses (58648, 59617, 59698); 95 specimens of plants from Arizona, collected by Dr. David Griffiths (58659, 59895); photostat copy of a manuscript on a tropical mistletoe, *Loranthus* sp., by Fácita Molina, together with specimens of *Loranthus* and "flores de palo" (58669); specimen of an alga, *Hormiscia tetraciliata*, from Washington (58772); 35 specimens of plants from Wisconsin (58805), 6 from New Jersey (58858, 59108); specimen of a climbing fern, *Lygodium*, from the Philippines (58991); 3 specimens of plants from China (58999, 59175); specimen of a fungus, *Thelephora*, from New York (59089); 62 photostat prints of plants, chiefly of the genus *Inga* (59093, 59113); 26 specimens of rushes, *Juncus*, mainly from the western United States (59187, 59232, 59359, 59377); 35 specimens of plants collected in China and Japan by Mr. F. N. Meyer (59220, 59562); specimen of *Verbesina* from Venezuela (59233); 54 specimens of

AGRICULTURE, DEPARTMENT OF—Contd.
plants collected in Montana, Utah, and Washington by Mr. E. O. Wooton (59244, 59358), 3 from Utah (59260), 552 chiefly from California and Arizona, collected by Prof. A. S. Hitchcock (59296); specimen of a sedge, *Carex*, from Brazil (59309), 1 of a gooseberry, *Grossularia*, from Wyoming (59332); 20 specimens of plants collected in Canada by Mr. Frederick V. Coville (59337), 2 from the District of Columbia (59372, 59509); 4 photographs of Brazilian plants, Cyperaceæ (59413); 82 specimens of plants from North Dakota, collected by Mr. J. T. Sarvis (59598); small specimen each of the wood, fruit and fibre of the kapok or silk cotton tree, *Ceiba pentandra*, from Tahiti (59671); 1,078 specimens of plants from the United States, mainly from the western part, collected by Mr. W. W. Eggleston (59797, 59872); specimen of an orchid, *Stenorrhynchus*, from Florida (59807); specimen of a plant, *Selaginella*, from North Carolina, collected by Mrs. Agnes Chase (59884); specimen of a currant, *Ribes*, from Arizona (59896).

AILES, M. E., Washington, D. C.: Specimen of a bunch-berry, *Cornus canadensis*, from West Virginia (58668).

ALBERTA, UNIVERSITY OF, Edmonton South, Alberta, Canada: 18 specimens representing a suite of the alkaline igneous rocks from the Ice River District, British Columbia (59635, exchange).

ALDRICH, J. M., Lafayette, Ind.: 7 insects, *Psilopus*, of which 2 are cotypes of *P. flavipes* (58689).

ALFORD, W. M., & SONS, New York City: Sample of yarn-dyed novelty silk, "puppy skin" (58834).

ALLAN, JAMES, Vienna, Va.: 300 specimens of plants collected in Argentina by Mr. Walter Fischer (59027, purchase).

ALLARD, H. A., U. S. Department of Agriculture, Washington, D. C.: 8 toads from Virginia (59692).

ALLEN, FREDERICK I., New York City (through Prof. F. W. Clarke): Specimen of leucophoenicite from Franklin Furnace, N. J. (59067).

AMERICAN BANK NOTE Co., New York City: A copy each of the Lord's Prayer and the Ten Commandments, engraved by Mr. C. Toppan under a microscope (58660).

AMERICAN ENTOMOLOGICAL SOCIETY, Philadelphia, Pa.: Ichneumon fly, *Pseudorhyssa sternata* (58733, exchange).

AMERICAN MUSEUM OF NATURAL HISTORY, New York City: Cast of the type of the fossil horse, *Merychippus sejunctus*, consisting of a skull and lower jaw (58604, exchange); cast of a porpoise, *Tursio borealis* (58793); sample of stomach contents taken from the alimentary canal of a basking shark (59115). (See under Beers, Nathan Perry.)

AMERICAN MUSEUM OF SAFETY, THE, New York City (through Dr. William H. Tolman, director): 4 bronze replicas of the Anthony N. Brady memorial medal, awarded annually by The American Museum of Safety to the American electric railway company which for the year of the award has done most to conserve the safety and health of the public and of its employees (59679).

AMERICAN PEACE CENTENARY COMMITTEE, 1914-1915, New York City: 2 bronze replicas of the medal issued by the American Peace Centenary Committee commemorating, 1915, the one hundredth anniversary of peace among English-speaking peoples (59955, purchase).

AMERICAN TELEPHONE & TELEGRAPH Co., New York City: Materials and apparatus used on the transcontinental telephone line on the occasion of the first telephonic conversation between New York and San Francisco, January 25, 1915 (59127, 59334); duplicate of the first telephone transmitter, A. G. Bell, 1875 (59455).

AMERICAN TEXTILE Co., New York City: 6 spools of "Zylofin" yarn made from wood fibre, and 9 samples of rugs showing the finished product woven from this yarn (59777).

AMERICAN THREAD Co., THE, New York City: A series of specimens, models and sections of machines illustrating the manufacture of cotton thread (59306);

AMERICAN THREAD Co., THE—Contd.

34 photographs covering the various processes in thread making, from cotton in bales to the finished goods (59540).

AMERICAN TYPE FOUNDERS Co., Jersey City, N. J. (through Mr. Henry L. Bullen): A Wells hand press, model of 1816, and 2 photographic views of the press (59294); collection of type and type-casting material, 199 specimens (59932).

AMORY, COPLEY, jr.: About 365 mammals, 243 birds, 5 nests, 30 eggs, 242 fishes, 61 specimens of plants and a number of insects, from Siberia, and a few birds from Kodiak Island (59079).

AMSTUTZ, N. S., Valparaiso, Ind.: Cutter sharpener, used in connection with akrograph engraving machine (59927, loan); collection of machines and machinery and other specimens, used by the inventor and donor in developing his method of sending photographs by telegraph and the development from this of the akrograph engraving machine (59928).

ANDERSEN, OLAF, Geophysical Laboratory, Washington, D. C.: Specimens of aventurine feldspar, described by the donor (58811).

ANDREWS, MRS. GEORGE L., Washington, D. C.: Oil painting by George Inness, entitled "Elf Ground" (59803); collection of laces and fans, a black lace parasol and 3 pieces of silver (59804). Loan. (See under Rantoul, Robert S.)

ANDREWS, MRS. MARIETTA M., Theological Seminary, Va.: Studio properties of the late Eliphalet Fraser Andrews (Düsseldorf and Washington), presented as a memorial by Mrs. Andrews (59821).

APOLLINAIRE-MARIE, Brother, Bogotá, Colombia: 40 specimens of ferns from Colombia (59516).

AREQUIPA POTTERY STUDIO, Fairfax, Cal.: 7 specimens of Arequipa pottery (59624, purchase).

ARGENTINA, COMISION DE LA EXPOSICION UNIVERSAL, 1915, San Francisco, Cal.: 16 specimens of Argentine woods, received through Mr. Enrique M. Nelson, vice-commissioner general (59648); 3 carved panels of native woods, cedro

ARGENTINA, COMISION DE LA EXPOSICION
UNIVERSAL, 1915—Continued.

macho, loro negro and loro blanco de misiones, received through Mr. H. N. Curran, Laurel, Md. (59962).

ARNOLD ARBORETUM, Jamaica Plain,
Mass. (See under Harvard University.)

ARSÈNE, Brother G., Calvert Hall College, Baltimore, Md.: 2 specimens of plants from Mexico (59854).

ARTHUR, A. C., Cristobal, Canal Zone: Insect, *Dysodius lunatus* (58634).

ARTHUR, Dr. J. C., Purdue University, Lafayette, Ind.: 32 specimens of rusts, including part of the type of *Calliospora petalostemonis*, from New Mexico (58877, 59317, 59390). (See under Purdue University.)

ASBESTOS CORPORATION OF CANADA, LTD., Montreal, Canada: Photograph of Kings Pits, Thetford Mines, Canada (59563).

ASCHEMEIER, C. R., U. S. National Museum: Bat, *Nycteris cinerea* (58995).

ASTORIA VENEER MILLS AND DOCK CO., Long Island City, N. Y.: Specimens of various mahoganies, American, English, and Circassian walnut, padouk, barri and sabicue, 20 pieces in all, varying in length from 6 to 8 feet (58633); 12 specimens of foreign woods in 6-foot planks (59842).

ATLANTIC REFINING CO., THE, Philadelphia, Pa.: Oil samples (59721).

ATLAS PORTLAND CEMENT CO., THE, New York City: 350-pound samples of cement rock and a 50-pound sample each of clinker and Portland cement (59897).

AUSTIN, JAMES B., Washington, D. C.: Small collection of ores from the San Juan District, Colo. (59157).

AUSTRALIAN COMMISSION, PANAMA-PACIFIC INTERNATIONAL EXPOSITION, 1915, San Francisco, Cal.: 28 specimens of Australian agricultural products and 5 photographs framed in Australian woods received through Mr. George Oughton, secretary (59646); collection of ores and minerals, received through Mr. Niel Nielsen, commissioner for New South Wales (59657).

AUSTRALIAN MUSEUM. (See under Sydney, New South Wales.)

AVERY, SAMUEL PUTNAM, MEDAL COMMITTEE (through Dr. George F. Kunz, chairman, New York City): Copy, in bronze, of the Samuel Putnam Avery medal (58550).

AYER, EDWARD E., Chicago, Ill.: 2 sets of postal cards illustrating anthropological, biological and geological exhibits in the Field Museum of Natural History, Chicago (59292).

BAIRD, Miss LUCY HUNTER (through Mr. Herbert A. Gill, executor, Washington, D. C.): Commission of Prof. Spencer F. Baird as Commissioner of Fish and Fisheries, dated February 25, 1871, signed by U. S. Grant, President, and Hamilton Fish, Secretary of State; and letter dated March 4, 1871, signed by J. C. B. Davis, Assistant Secretary of State, forwarding the above commission to Prof. Baird (58951, bequest).

BAKER, Dr. F. H., Richmond, Victoria, Australia: 40 insects (58752, exchange); small lot of insects (59548).

BAKER, Dr. FRED., Point Loma, Cal.: 2 boxes of butterflies, one of them from Japan (58697); 3 reptiles from Japan (59805).

BALL, C. R., Bureau of Plant Industry, Washington, D. C.: 61 specimens of willows from the western United States (59346).

BALL, SYDNEY H., New York City (through Dr. E. O. Ulrich, Washington, D. C.): 2 septarian concretions from Portuguese West Africa (58887).

BANGS, C., Atlanta, Ga.: Copper spearhead found in Wilkin County, Minn., a mile east of Red River (58654).

BANKS, H. K., Kirbyville, Tex.: English verge watch (59470, loan).

BARBER ASPHALT PAVING CO., THE, Philadelphia, Pa.: Series of objects and materials illustrating the asphalt industry (59963).

BARBER, A. W. (See under Ransom, Miss Irene, Estate of.)

BARBER, MANLY D., Knoxville, Tenn.: 16 specimens, 4 species, of fresh-water

- BARBER, MANLY D.**—Continued.
mollusks from Tennessee and the District of Columbia (58914, exchange); 155 specimens, 13 species, of mollusks collected from the Tennessee River, at Knoxville (59344); 300 specimens of Ordovician fossils from eastern Tennessee (59395, exchange).
- BARLOW, BURT E.**, Coldwater, Mich.: 2 carpet bags used about 1870 (58639).
- BARLOW, Miss CATHERINE BRITTIN**, Washington, D. C.: Collection of Chinese objects, consisting of a string of perfumed beads in a round box, 3 wax balls containing pills, a medicine box containing wax balls, a lady's silk embroidered apron, and 3 rolls of silk floss (59303).
- BARNETT, VICTOR H.**, Washington, D. C.: 14 bird skins and skin and skull of a wild boar, from China (58606, 58771).
- BARRETT, CHARLES**, Washington, D. C.: 7 specimens, representing 6 species, of land, fresh-water and marine shells, from Pilgrim Island, James Bay, Canada (58617).
- BARTELS, J. M.**, Co., New York City: 78 miscellaneous foreign postage stamps (59199, purchase).
- BARTON, R. T.**, Constellation, Ariz. (through U. S. Geological Survey, Washington, D. C.): Specimen of crocodile (59772).
- BASSLER, Dr. R. S.**, U. S. National Museum: Collection of fossil bryozoans and ostracods, consisting of about 5,000 specimens (59037).
- BASTIN, E. S.**, U. S. Geological Survey, Washington, D. C.: Specimen of native antimony from Kern County, Cal. (59384).
- BATES, Mrs. CAROLINE E.**, Washington, D. C.: Crossbow (59619, loan); collection of anthropological, biological and textile material (59652).
- BAXTER, M. S.**, Rochester, N. Y.: 54 specimens of goldenrods, *Solidago*, from New York (59531).
- BEACH, REUEL**, Cambridge, Mass.: 3 specimens of chalk overlay (59618).
- BEAL, FRANK J.**, Commissioner, Department of Fisheries and Game, Plymouth, N. H.: Crayfish from the vicinity of Winnepesaukee Lake, N. H. (58850).
- BEALS, Mrs. W. G.**, Lake Valley, N. Mex.: 109 specimens of plants from New Mexico (58569, 59799).
- BEAM, WILLIAM B.**, Paterson, N. J.: Portrait in oil of an Indian girl, "Eagle of Delight," by Charles B. King (59301, loan).
- BEAN, BARTON A.**, U. S. National Museum: Pompon, *Anisotremus surinamensis*, obtained in Center Market, Washington, and said to have been shipped from Florida (59366).
- BEAN, JOHN and EDWIN**, Washington, D. C.: Turtle from Maryland (58663).
- BEAN, Dr. ROBERT BENNETT**, Tulane University, New Orleans, La.: 14 anatomical specimens (59236, 59560, collected for the Museum).
- BEAN, Dr. TARLETON H.**, Conservation Commission, Albany, N. Y.: Typespecimen of a whitefish, *Leucichthys macropterus*, collected by Mr. Philip H. Hartman, superintendent of the State Hatchery, Erie, Pa. (59213).
- BEERS, NATHAN PERRY** (through James B. and Edward DeLuna, New York City, and the American Museum of Natural History): A rocking-chair owned by Henry Clay, and a silk banner with streamer of red, white and blue silk carried on the occasion of his funeral (59059).
- BELL, Dr. ALEXANDER GRAHAM**, Washington, D. C.: 27 documents, consisting of diplomas, certificates of membership and award, etc., of Dr. Bell (59270, loan).
- BELLAMY, Mrs. ELLEN WASHINGTON**, Macon, Ga.: 34 historical relics (59834, loan).
- BEMENT, CLARENCE S.**, Philadelphia, Pa.: A specimen of hodgkinsonite from Franklin Furnace, N. J., and of betafite from Madagascar, received through Prof. F. W. Clarke (59357); 2 specimens of meteorites, Mt. Edith and Mungindi, Australia, and 2 minerals, eudialyte from Greenland and hopeite from South Africa (59751).
- BENEDICT, Dr. J. E.**, U. S. National Museum: Snake, *Diadophis*, from Woodside, Md. (58763).

- BENGE, ELMER, Folcroft, Pa.: Specimen of evansite from Mullica Hill, N. J. (59202).
- BENJAMIN, Mrs. CAROLYN GILBERT, Washington, D. C.: Invitation to the wedding of Joseph L. Gilbert and Caroline Etchebery, at Saint Vincent de Paul Church, New York City (58916).
- BENJAMIN, Dr. MARCUS, U. S. National Museum: Pair of baby slippers worn by the donor in San Francisco in 1857 (58554); 345 engraved and half-tone portraits of noted men (58976, loan); bronze token commemorating the Tennessee Centennial Exposition, Nashville, 1897 (59165); sheet of poster stamps—"Robert Treat directing landing of founders of Newark" (59609); 6 posters and 22 poster stamps (59858).
- BENT, A. C., Taunton, Mass.: Skin of European sparrow hawk, *Accipiter nisus*, said to be from New York (59269).
- BEST, A. C., Whitesburg, Ky.: Common stag-beetle, *Lucanus elaphus* (58751).
- BIGELOW, Maj. JOHN, U. S. Army, Washington, D. C.: Objects pertaining to the costume worn by John Bigelow, father of the donor, at the Court of Napoleon III, when American Minister to France, 1865-1866, consisting of a chapeau, coat, pair of trousers, pair of knee breeches, 2 vests, and a sword and scabbard (59728).
- BISSETT, E. W., Bradford, Pa.: Specimen of oil-bearing rock from Bradford (59274).
- BLAIR, Mrs. LYMAN, Greenville, Me.: Piece of pink-and-white silk embroidered with three floral designs, from a dress worn at one of the receptions given to Lafayette in this country, and a Lowestoft china cup and saucer used at the same reception (58989).
- BLOCK, Mrs. CHARLES, Washington, D. C.: 8 Jewish prayer-books, in 12 volumes (58608).
- BLUMENTHAL, SIDNEY, & Co., INC., New York City: 13 samples of drapery fabrics and furniture coverings, 4 corners of portieres and a fortuna silk plush portiere (58868); 4 samples of
- BLUMENTHAL, SIDNEY, & Co.—Contd. velvet upholstery and drapery fabrics, received through Mr. N. W. Doorly (59941).
- BOARDMAN, Mrs. W. J., Washington, D. C.: Blue satin dress, with embroidered strawberry designs, worn by Miss Mabel T. Boardman (59900, loan).
- BOCKMAN, A. E., New York City: 2 slabs of marble from the quarries of H. E. Gittins, Burlington, Vt. (59446).
- BODELL, Mrs. P. T., Washington, D. C.: Chair made from wood obtained from the Confederate ironclad *Merrimac*, and a silk flag used by a Virginia whig association during the political campaign of 1840 (58717, loan).
- BODKIN, GILBERT E., Science and Agriculture Department, Georgetown, British Guiana: 5 specimens of an arthropod, *Epiperipatus imthurmi*, collected in British Guiana (58746).
- BOLIVIA, COMMISSION OF, PANAMA-PACIFIC INTERNATIONAL EXPOSITION, 1915, San Francisco, Cal. (through Dr. Otto Buchtien, commissioner): Collection of ore and mineral specimens (59658).
- BOLLMAN, H. C., Smithsonian Institution: 2 specimens of a persimmon, *Diospyros*, from Maryland (58577). (See under Standley, Paul C.)
- BONAPARTE, PRINCE ROLAND, HERBARIUM OF, Paris, France (through Mr. C. Belhatte): 4 photographs of ferns (59510, exchange).
- BOONE, Miss PEARL L., U. S. National Museum: Specimen of orchid, *Blephariglottis*, from Maryland (58709).
- BØVING, Dr. A. G. (See under Henriksen, Kaj L.; Kryger, J. P.; Lapouge, G. de; and Rosenberg, E.)
- BRADSHAW, Mrs. J. H., Beaver, Utah: Obsidian blade and a fragmentary earthenware bowl, from Beaver Valley, Utah, collected by the donor (58744).
- BRANDEGEE, Mrs. KATHARINE, University of California, Berkeley, Cal.: Specimen of a plant, *Arctomecon*, from Nevada (59234).
- BRANSON, LLOYD, Knoxville, Tenn.: Cottontail rabbit from Knoxville (59695).

- BREEDING, Mrs. T. M., Spray, Oreg.: Specimen of opal (59211).
- BRETON, Miss ADELA C., Washington, D. C.: Water-color drawing of "Part of painting in vault of large upper chamber, Casa de las Monjas, Chichen-Itza," by A. Breton, 1902 (59784).
- BRIMLEY, C. S., Raleigh, N. C.: 11 turtles from Florida (58712, purchase).
- BRINKLEY, STERLING G., Soochow University, Soochow, China (through Carnegie Institution of Washington): 25 Carboniferous fossils from China (58754).
- BRISTOW, J. Q., Accotink, Va.: Paper money, consisting of six notes issued by the Spanish Bank of Cuba (59168).
- BROADWAY, W. E., Port-of-Spain, Trinidad: 4 specimens of plants from Trinidad (59810, 59891); specimen of a plant from Venezuela (59451).
- BROWN, BENJAMIN, U. S. National Museum: An Elliot 4-barrel pistol (59100).
- BROWN, E. J., Los Angeles, Cal.: Reptiles, batrachians, mammals and crustaceans from California (59257); 260 bird skins from southern California (59405).
- BROWN, SAMUEL K., Los Angeles, Cal.: 5 skins of the valley quail, *Lophortyx californica vallicola*, from southern California (59406).
- BRUCH, Dr. CARLOS, La Plata, Argentina: Specimen of a plant, *Prosopanche burmeisteri*, from Alto Pencoso, Province of San Luis, Argentina (58908).
- BRUNSWICK-BALKE-COLLENDER Co., THE, New York City: 8 specimens showing the manufacture of bowling balls and tenpins (59817).
- BRYANT, H. C., University of California, Berkeley, Cal.: Skin of Temminck's robin, *Ictoturus komadori* (59044).
- BRYANT, WALLACE, Boston, Mass.: 36 oil paintings by Wallace Bryant (59952, loan).
- BUCHANAN, Mrs. ROBERDEAU, Washington, D. C.: White linen handkerchief with colored cross-stitch designs, sampler made prior to 1811 and one made in 1811, work of members of the Roberdeau family (59287, loan).
- BUCHTIEN, Dr. OTTO. (See under Bolivia, Commission of, Panama-Pacific International Exposition.)
- BUCKINGHAM, Mrs. EDGAR, Chevy Chase, Md.: About 5,000 invertebrate fossils, and a miscellaneous collection of stone objects from New Jersey, Pennsylvania, Texas and other localities (59162).
- BUENOS AIRES, ARGENTINA, MUSEO NACIONAL: Specimen of wood infested with the isopod *Limnoria lignorum*, these being the first examples of this species recorded from South America (59949).
- BUFFALO SOCIETY OF NATURAL SCIENCES, Buffalo, N. Y.: 16 specimens of fossil fish remains (59135, exchange).
- BURBANK, R. D., Washington, D. C.: 2 box turtles from Virginia (58662).
- BURNUP, HENRY C., Maritzburg, Natal: 24 specimens, 12 species, of named mollusks from Durban and Lower Umkomaas (59675).
- BUSCK, AUGUST, Bureau of Entomology, Washington, D. C.: 15 skulls and other parts of human skeletons, a lot of tapa cloth and matting wrappings of the dead—the entire contents of a cave facing the sea at Napoopoo, Hawaii, and 19 lizards and 8 lizard eggs from Kona, Hawaii (59072); specimen of a plant, *Hibiscadelphus giffardianus*, from Hawaii (59735).
- BUSCK, WILHELM. (See under Kuhns, D. B.)
- BUSH, B. F., Courtney, Mo.: 214 specimens of plants from Missouri (59621, purchase).
- BUSHNELL, D. I., jr., Washington, D. C.: 3 quartzite rejects and 20 chips and flakes, from a village site or workshop on the James River, 10 miles below Richmond, Va. (59259).
- BUTMAN, CARL, Smithsonian Institution: 182 lithographs, engravings, poster stamps, etc. (59222); a wood-block book and a collection of drawing books, chromolithographs, etchings and engravings (59859).
- BYERS, HARRY, Nelson, Mont.: Skull of a woodchuck, *Marmota*, from Montana (59138).

- CABINET ICHTHYOLOGIQUE DE L'ACADEMIE D'AGRICULTURE DE MOSCOU. (See under Moscow, Russia.)
- CALDWELL, W. R., Glenview, Ill.: 4 postage stamps—Canada, 1870, 3¢ dull red, used; Canada, 1888, 3¢ carmine red, used; Canada, 1890, 3¢ vermilion, used; and New Brunswick, 1861, 5¢ brown, counterfeit, unused (58731).
- CALIFORNIA REDWOOD ASSOCIATION, San Francisco, Cal.: 38 specimens of redwood lumber of various patterns, including a large plank 13 feet by 4½ feet by 2½ inches (59570).
- CALIFORNIA STATE NORMAL SCHOOL, Los Angeles, Cal. (through Mr. Loye Miller): Skull of a fossil dog, *Canis orcutti*, from Rancho La Brea, Cal. (58589, exchange).
- CALIFORNIA, UNIVERSITY OF, Berkeley, Cal.: 304 specimens of plants from Europe (58871, exchange); 1,582 specimens of plants, chiefly from California (59060, 59855, exchange); a cotype slide each of protozoans *Trichomitus parvus* and *Giardia microti*, received through Miss Olive Swezy (59779).
- CALLAHAN, HUGH L., Louisville, Tenn.: Fresh-water shells found in shell heaps in the vicinity of Louisville (58574).
- CALLENDER, Miss ADA B., Middlebury, Vt.: 59 specimens of plants, mostly from Vermont (58856).
- CAMP, R. D., Brownsville, Tex.: About 2,084 mollusks, including land and fresh-water shells, and a number of small crustaceans, from Brownsville and vicinity (58560, 58591, 58682).
- CAMPBELL, A. P., U. S. National Museum: Ruby-throated hummingbird, *Archilochus colubris* (59700).
- CAMPBELL, S. S., Yacont, Wash.: Specimen of a chloritic mineral from Clarke County, Wash. (59125).
- CANADA, BIOLOGICAL BOARD OF, Pacific Coast Station, Nanaimo, British Columbia (through Dr. C. McLean Fraser): 686 crabs, Pinnotheridae, from British Columbia (59926).
- CANADA, GEOLOGICAL SURVEY OF. (See under Victoria Memorial Museum, Ottawa.)
- CANAL ZONE, BOARD OF HEALTH LABORATORY, Ancon: 6 snakes from Panama (59832).
- CANAVARRO, G. DE S., U. S. National Museum: 70 hand samples of American commercial woods (59820).
- CARNEGIE INSTITUTION OF WASHINGTON: About 5,000 marine invertebrates, largely corals, and insects, fishes, reptiles, and ferns, collected by Mr. Clarence R. Shoemaker in St. Thomas, St. John, and St. James, Danish West Indies (58705); specimens of plants, marine invertebrates, reptiles, batrachians, insects, and hummingbird nests, obtained by Dr. J. N. Rose in Brazil and Argentina (58885); 18 living specimens of plants, mainly Cactaceae, collected by Dr. D. T. MacDougal in Arizona and California (59433, 59513, 59615, 59793); 5,000 land and marine mollusks from the Florida Keys, collected by Dr. Paul Bartsch (59946). (See under Brinkley, Sterling G.)
- CARR, HARRY E., Spokane, Wash.: Drilled ceremonial tablet or "charm stone," found by the donor near Leavenworth, Wash. (59185).
- CARTER, HUGH THOMAS, Washington, D. C.: Dog travois and a painted skin tent in miniature, from Mountain Chief, a Blackfoot Indian, Mont. (58959); 33 Indian and Eskimo ethnological objects (59688, purchase).
- CARTER, N. E., Elkhorn, Wis.: 2 fraudulent copper implements from Wisconsin (58962).
- CARTER, RALPH E., Naskeag, Me.: Stone ax, stone hammer, and miscellaneous bones, collected by the donor from a shell heap at Naskeag (58848); skull of a whistling swan, *Olor columbianus*, from Maine (59331).
- CAUDELL, A. N., Bureau of Entomology, Washington, D. C.: Lizard, *Phrynosoma*, from Oklahoma (59167).
- CENTURY CO., THE, New York City: 3 original engraved wood blocks by Timothy Cole (59937, purchase).
- CHACE, E. P., Los Angeles, Cal.: 5 specimens of the introduced mollusk, *Helix pisana*, acclimated in California, from

CHACE, E. P.—Continued.

La Jolla, and 6 of *Pecten monotimeris* from Orange County, Cal. (59043); 6 land shells from Los Angeles (59475).

CHALMERS, R. BUDD, Norfolk, Va.: 4 sponges, *Tetilla gravata*, collected on the Ocean View side of Hampton Roads in Chesapeake Bay, on the Virginia coast (59709).

CHAMPION, H. G., Woking, England: 2 specimens of plants from Colorado (58789); 6 beetles, consisting of 3 specimens of *Zarhipis*, 1 of *Leptocoleus* and 2 of *Stenochidus* (58930).

CHANEY, Mrs. C. S., Salem, Mass.: Mollusk, *Voluta junonia*, from Tarpon Springs, Fla. (59712).

CHAPMAN, R. H., Washington, D. C.: Skull of a mountain goat from Montana (59465).

CHASE, Mrs. AGNES, Bureau of Plant Industry, Washington, D. C.: 53 specimens of plants from the District of Columbia and vicinity (58703, 59308).

CHEN CHI. (See under China, Commission of the Republic of, Panama-Pacific International Exposition.)

CHENEY BROS., South Manchester, Conn.: 46 views showing silk manufacture (58893); a series of 25 specimens illustrating the designing, weaving and printing of silk upholstery and drapery fabrics (59368).

CHICAGO, UNIVERSITY OF, Chicago, Ill.: *Walker Museum*: 140 plastotypes representing 131 species of Paleozoic fossils (59394, exchange).

Yerkes Observatory (Williams Bay, Wis.): 13 photographic prints from astronomical negatives made at the Yerkes Observatory, received through Dr. Edwin B. Frost, director (58988).

CHINA, COMMISSION OF THE REPUBLIC OF, PANAMA-PACIFIC INTERNATIONAL EXPOSITION, 1915, San Francisco, Cal. (through Mr. Chen Chi, commissioner-general): 176 specimens of agricultural products from the provinces of Anhui and Kiangsi, China (59660).

CHITRUM, C. H., Lexington, Va.: Nest of Baltimore oriole, *Icterus galbula*, from Virginia (59323).

CHRISMAN, MORRIS, Redington, Ariz.: 3 specimens of Lepidoptera, *Agapema anona* (59508).

CHRISTIAN, Miss VIE, Beaver, Utah: 19 stone implements collected by the donor in the neighborhood of Beaver (58745).

CHRISTY, FRANK, Fort Yates, N. Dak.: Skull of a Sioux Indian woman (59930).

CLAPP, E. D., Washington, D. C.: Iron bolt from one of the lock walls of the canal constructed between 1785 and 1802 around the Great Falls of the Potomac River by the Potomac Company, of which George Washington was the first president (59428).

CLAPP, GEORGE H., Pittsburgh, Pa.: 10 mollusks, *Liguus crenatus septentrionalis*, from Fort Lauderdale, Fla. (59396).

CLARK, AUSTIN H., U. S. National Museum: Crinoid, type of *Comanthus benhami*, from southwestern New Zealand (59764).

CLARK, Dr. B. L., University of California, Berkeley, Cal.: 40 specimens, representing 22 species, of Tertiary mollusks from California, described by the donor (59156).

CLARK, B. PRESTON, Boston, Mass.: 19 rare exotic sphingid moths (59484).

CLARK, ELTON, Framingham Center, Mass.: 8 skins and 13 skulls of large mammals from German East Africa (59209, 59407); 7 skulls and a scalp of large mammals collected by the donor and Mr. T. P. Lindsay in German East Africa (59773); skull of a gnu from British East Africa (59463).

CLARK, JAMES L., New York City: Skin and skull of a duiker, *Cephalophus sylvicultrix* (58582, purchase); skull of a giraffe and of a water buffalo, from British East Africa, and skull of a caribou, *Rangifer terrestris*, from Newfoundland (58658, 58767, exchange); skins and skulls of 2 deer, *Odocoileus*, from New Brunswick, Canada (58913); 8 moose skulls and a caribou skull, from Canada, and skull of a deer, *Odocoileus*, from New York (59036, 59169,

CLARK, JAMES L.—Continued.

exchange); 13 skulls of large mammals (59316, exchange); 11 large mammal skulls from Canada and Alaska (59381, exchange); skulls of 2 moose, a caribou, a deer and 2 mountain sheep (59464, exchange).

CLARK, JOHN J., Pascagoula, Miss.: Phosphatic concretion (58826).

CLARKE, Prof. F. W., U. S. Geological Survey, Washington, D. C.: The Wilde Gold Medal, Manchester (England) Literary and Philosophical Society, awarded to Prof. Clarke on the occasion of the Dalton Centenary, 1903 (59837, loan). (See under Allen, Frederick I.; Bement, Clarence S.; and Iles, George.)

CLEMENT, Mrs. ERSKINE, Newburyport, Mass. (through Mrs. Julian-James): Dress, handkerchief and pair of slippers which belonged to Mrs. Louisa Catherine Adams, wife of President John Quincy Adams, and 2 handkerchiefs, one of which belonged to President John Adams and the other to President John Quincy Adams (58706, loan).

CLERK, W. T., Washington, D. C.: Pair of Tlinkit snowshoes collected in Chilkat Inlet, Alaska, in 1885 (59701).

CLIFTON, E. (See under New Zealand, Commission of the Dominion of, Panama-Pacific International Exposition.)

CLOKEY, IRA W., Decatur, Ill.: 7 specimens of sedges, *Carex*, from Illinois (58829); 124 specimens of plants, chiefly from Illinois (58994, exchange).

COCKERELL, Prof. T. D. A., University of Colorado, Boulder, Colo.: A fossil plant and 3 fossil insects (58640); 32 miscellaneous insects, type, paratype, pupa and eggs of *Microdon coloradensis*, and type, paratype and pupa of *M. tristiformis* (58688); specimen of a fern from Lower California (58774); 35 insects, including 8 determined bees (58934); insects, consisting of types of *Phyciodes* ab. *rohveri* and *tristis*; *Chironomus guatemaltecus*, *Dohrniphora quadrifida*, *Dasyneura stanleyae*, *Microcerata iridis* and determined specimens of 11 species of Hymenoptera (59340); type specimen of fossil insect in amber, from the Cretaceous of Tennessee (59355);

COCKERELL, Prof. T. D. A.—Continued. crustacean collected at La Jolla, Cal. in 1915, by Miss Hazel Andrews (59439); types of white-flies, *Aleyrodes mori arizonensis*, *Aleyrodicus jamaicensis* and *A. ornatus* (59493). (See under Daniels, L. E.)

CODAZZI, RICARDO LLERAS, Bogota, Colombia, South America (through Dr. Joseph E. Pogue): Specimen of emerald with carbonaceous inclusions, from Muza, Colombia (59217).

CODWISE, Miss LOUISE SALTER, Kingston, N. Y.: 84 relics of the Salter and Codwise families of New York and New Jersey, an addition to "The Louise Salter Codwise Collection" (58919, loan); 28 ethnological objects, 22 specimens of Old World archeology, a small bottle of garnets from Arizona and a staurolite from Virginia (58920).

COLBURN, ALBERT E., Los Angeles, Cal.: 7 lizards, 9 salamanders, 2 shells and a centipede, from Coronado Islands (58632).

COLE, F. R., Bureau of Entomology, Washington, D. C.: About 225 Hymenoptera from California, and a specimen of Diptera, *Microdon* n. sp. (58937).

COLE, Mrs. NELLIE G. (See under Ransom, Miss Irene, Estate of.)

COLEMAN, Dr. WILLIAM MACON, Washington, D. C.: A gorgonian (58903).

COLLINGE, Dr. WALTER E., The University, St. Andrews, Scotland: Crustaceans from St. Andrews Bay, consisting of 32 specimens of *Idotea baltica*, 12 of *I. pelagica*, 6 of *I. neglecta*, 6 of *I. emarginata*, 2 of *I. granulosa*, 36 of *I. linearis*, 18 of *Thysanessa tenosa* (?) and 9 of *Chondracanthus lophii* (59763, exchange).

COLLINS, F. S., North Eastham, Mass.: 50 specimens of algae, *Phycotheca Boreali-Americana*, Fascicle XLII (59583, purchase).

COMBS, CLARK W., Washington, D. C.: Needlecase and a silk purse (58561).

COMMERCE, DEPARTMENT OF:

Bureau of Fisheries: About 10,000 crustaceans, *Euphausiacea*, including 2 types of new species, identified by

COMMERCE, DEPARTMENT OF—Contd.

Dr. H. J. Hansen (58588), 183 lots of *Pyrosoma* and *Salpa*, reported on by Dr. Maynard M. Metcalf (59047, 59145), about 150 starfishes, nearly all of which are type specimens, reported on by Dr. Walter K. Fisher (59290), and about 1,000 specimens, representing 35 species, of annelids (59350), all of the foregoing being obtained during the Philippine expedition of the Fisheries steamer *Albatross*, 1907-1910; about 500 pteropod mollusks, collected by Dr. H. B. Bigelow on the first cruise of the Fisheries schooner *Grampus* in the spring of 1915 (58602); medusa, type specimen of *Eperetmus typus*, collected by the *Albatross* during the Alaska cruise of 1905, Station 4754, and described by Dr. Bigelow (58620); mammals, birds, fishes and marine invertebrates, collected in Alaska by Mr. E. P. Walker (58653); 42 specimens of algae from the coral reef off-shore from Beaufort, N. C. (58781); 33 crinoids, *Metacrinus rotundus*, collected in 1900 by the *Albatross*, in Sagami Bay, Japan (58836); hydroid, *Thuiaria argentea*, obtained by Mr. Thomas M. Douthart off Nantucket (58862); about 5,000 decapod crustaceans collected by the *Albatross* during the northwestern Pacific cruise, 1906 (58946); 150 marine shells from the beach at Northeast Point, St. Paul Island, Alaska, collected by Mr. G. Dallas Hanna, and 345 marine invertebrates, 29 fishes, 365 insects, a bottle of seaweed, a diseased bird and diseased feet of birds, collected by Mr. Hanna during 1914 and 1915 on the Pribilof Islands (59028, 59385); isopod crustaceans, consisting of *Phryxus subcaudalis*, new species, *Pseudione upogebiz*, new species, and *Synagnella deformans*, new genus and new species, collected by Prof. W. P. Hay at Beaufort, N. C. (59049); 62 bird skins, 2 bird skulls, the sternum of a bird, a box of fossil mollusks, 1 of marine shells, and 7 boxes of fungi, from St. Paul Island (59152); 80 vials of fresh-water plankton collected at Finger Lakes, N. Y., by Dr. E. A. Birge and Prof. Chancey Juday, and 50 vials of fresh-

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water plankton from various localities collected by Mr. W. R. Boorman (59268); collection of plankton made by Mr. Boorman in the northwestern United States, New York and Alaska (59754); 267 vials of mollusks and 179 bottles of crustaceans from surface towings, etc., collected by the surveying steamer *Bache* in 1914 (59305, 59586); fresh-water mussels from Punjab, India, consisting of 4 specimens of *Lamellidens marginalis*, 2 of *Parreysia favidens*, and 2 of a new species of *Parreysia* related to *P. favidens* (59398); 2 isopods, *Sphaeroma destructor*, collected at Manchac, La. (59399); 99 fishes, mostly types and paratypes, collected by the *Albatross* and received through Leland Stanford Junior University (59423); a barrel of fishes collected for the most part by the *Albatross* in 1887 and 1888 on the voyage around Cape Horn, in the Pacific Ocean off the coast of California and northward, and along the coasts of Japan, received through Stanford University (59889); 22 living specimens of Cactaceae, collected by Mr. Charles Hatsel in North Carolina (59469, 59514); 7 lynx skulls and 1 each of a bear, wolf and marten (59522); 6 soft-shell turtles from Iowa (59594); fishes, reptiles, invertebrates and insects (59597); a series of exhibition specimens of fishes and invertebrates of Great Britain (59608); about 1,000 fresh-water mollusks collected in the Mississippi River in the region of Fairport, Iowa (59616); skulls of 2 bears, 2 red foxes, 3 minks, 2 porcupines and 6 lynxes (59669); 11 coelenterates, 12 worms, 30 crustaceans, 50 mollusks, 2 scorpions, 3 fishes, 2 diseased halibut stomachs, 12 amphibians, a reptile and a gopher, collected by the *Albatross* (59706); skin and skull of an arctic fox, *Alopex*, from St. Paul Island (59743); about 3,000 marine invertebrates collected by the Fisheries steamer *Fish Hawk* in the Chesapeake Bay in the fall of 1915 and the spring of 1916 (59755); specimen of an hepatic, *Riccia*, from Iowa (59829); 11 batrachians from South Carolina, collected by Mr. W. W. Welsh (59846); 28 specimens,

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10 species, of chitons, including 4 types of new species, collected by the *Albatross* in the northwest Pacific and surrounding waters during the summer of 1906, and reported on by Mr. S. S. Berry (59919).

Coast and Geodetic Survey: 10,960 bottles containing specimens of ocean bottom from the Atlantic, Gulf and Pacific coasts, secured by vessels of the survey (58968).

CONGER, HON. FRANK B., Washington, D. C. (through Mr. De Lancey Gill): Large basket obtained by the donor some thirty or more years ago from the chief of one of the Northwest Coast tribes (59933).

CONGRESS, LIBRARY OF. (See under Hamilton, Allan McLane.)

CONKLIN, CHARLES E., Roslyn, N. Y. (through Bureau of Plant Industry, Washington, D. C.): 2 living specimens of cactus *Mamillaria*, originally from Mexico (59684).

CONKLIN, DR. GEORGE H., Superior, Wis.: Specimen of liverwort, *Scapania paludicola*, from Wisconsin (59245).

COOK, DR. O. F., Bureau of Plant Industry, Washington, D. C.: 3 mollusks collected in Peru (59130).

COOKE, MISS MAY THACHER, Washington, D. C.: 383 mounted specimens of plants from Massachusetts (59664).

COPENHAGEN, DENMARK, UNIVERSITETETS ZOOLOGISKE MUSEUM (through Dr. Will Lundbeck): Larvæ of sawflies, consisting of several specimens each of *Pteronus similis*, *P. hercyniae*, *P. pallidus* and *Neodiprion sertifer* (58628).

CORNISH, Lieut. G. R. F., Manila, P. I.: 9 snakes from Samar Island, Philippines (59699).

COUGHLIN, PAUL, Hyattsville, Md.: 2 dragonflies from Hyattsville (58692).

COVERE, L. H., Kinsman, Ohio: Specimen of mole-cricket, *Gryllotalpa borealis* (59496).

COVILLE, FREDERICK V., Bureau of Plant Industry, Washington, D. C.:

COVILLE, FREDERICK V.—Continued.

250 specimens of hepatics from New York State (59020, 59345).

CRAIG, Col. ROBERT, U. S. Army, Washington, D. C.: Ladies' ticket to "Grand Inauguration Ball to be given by the 12th Ward Democratic Association of Philadelphia, at the Assembly Rooms, Louisiana Avenue, Washington, D. C., on Tuesday evening, March 3, 1857" (58587); bill of fare and an invitation card of a dinner to President Johnson in 1867, and a Continental bill of 1777 (58978); a photograph of Hon. Benjamin F. Wade, U. S. Senator from Ohio, 1851 to 1869, and one of Hon. D. W. Mahon, First Auditor, U. S. Treasury Department, December 19, 1871, to March 31, 1878 (59592).

CRAIGHEAD, F. C., Bureau of Entomology, Washington D. C.: Specimen of a plant, *Centaurea*, from Virginia (59086).

CRANE, Mrs. W. MURRAY, Sugar Hill, Dalton, Mass. (through Mrs. Julian-James): Gentleman's hat and waistcoat of the early part of the 19th century (59408).

CRAWFORD, Prof. D. L. (See under Pomona College.)

CROFT, GLENN, Willard, Utah: Obsidian "duckbill" scraper and 4 arrowpoints and fragments, found by the donor at Willard (58734).

CROMPTON & KNOWLES LOOM WORKS, Worcester, Mass.: Modern 416-hook, double-lift, single cylinder, Jacquard machine (58842).

CROMWELL, DAVID W., New York City: Collection of postage stamps of the United States and foreign countries (formerly a loan) (59959).

CRONE, FRANK L. (See under Philippine Islands, Government of the.)

CROSBY, J. H., Kanab, Utah: 21 arrowpoints, spearheads and fragmentary stone implements, collected by the donor near the mouth of Johnson Canyon, about 15 miles east of Kanab (58742).

CROSTHWAITE, Miss FOREST M., Washington, D. C.: Uniform coat worn dur-

- CROSTHWAITE, Miss FOREST M.—Contd. ing the Mexican War by Lieut. Baldwin J. Crosswait, Co. A, 3rd Ohio Infantry (58843).
- CULLER, Mrs. D. F., Strasburg, Va.: 2 gold watches of the early part of the 19th century, costumes and accessories of the period of the Civil War, and miscellaneous relics (59956, loan).
- CUMMING, Mrs. GORDON, Washington, D. C. (through Mrs. R. G. Hoes): Miniature portrait of Capt. John Hazard and diploma of Malcolm Campbell as a graduate of St. Andrews University, Scotland (59835, loan).
- CURRAN, H. N., Laurel, Md.: 350 specimens of plants from Brazil (59427, purchase); a pannier basket made of lianas, obtained in Bahia, Brazil (59681). (See under Argentina, Comision de la Exposicion Universal, 1915, San Francisco, Cal.)
- CUTLER, Prof. IRA E., University Park, Colo.: Specimen of a rose from Colorado (58949).
- DALL, M. H., Samarcand, N. C. (through Dr. William H. Dall, U. S. National Museum): Specimen of Tuckahoe or Indian bread (59302).
- DAMON, ROBERT F., Weymouth, England: Series of 5 plaster models representing the evolution of the human jaw (59297, purchase).
- DANIELS, L. E., Laporte, Ind. (through Prof. T. D. A. Cockerell): Type specimen of a Carboniferous insect, *Danieliella priscula*, from Mazon Creek, Ill. (59320).
- DAVIDSON, Dr. A., Los Angeles, Cal.: 3 specimens of plants from California (58948).
- DAVIS, CARL S., Siletz, Oreg. (through Dr. Leo J. Frachtenberg): Deck of 13 guessing-game sticks, a mat and a bunch of grass, used by the Rogue River Indians of Oregon in playing the guessing-game (59295).
- DAVIS, Mrs. LOUISA F., Shipman, Va.: 2 hand cards for carding wool, used by slaves between 1856 and 1865 on the plantation of Mary C. Purvis, mother of the donor (58969).
- DAWSON, Dr. H. D., Magdalena, N. Mex.: Chipped implement of unusual type, found in western Socorro County, east of Eagle Peak, N. Mex. (59901).
- DEAM, CHARLES C., Bluffton, Ind.: 72 specimens of plants from Indiana (59324, exchange).
- DEAN, REGINALD SCOTT, Missouri School of Mines, Rolla, Mo.: Specimen of pyrite from Rolla (59633).
- DEANE, WALTER, Cambridge, Mass.: 443 specimens of plants from New Hampshire (59188).
- DECORUS MANUFACTURING CO., THE. (See under Freund, Theodore.)
- DELUNA, JAMES B. and EDWARD. (See under Beers, Nathan Perry.)
- DENSMORE, Miss FRANCES, Bureau of American Ethnology: 8 specimens illustrating the customs of the Chippewa Indians of Minnesota (59148, loan); 18 specimens illustrating the customs of the Mandan and Hidatsa Indians of Fort Berthold, N. Dak. (59153, loan); 8 ethnological objects gathered by Miss Densmore in the summer of 1915 among the Ute Indians (59951, purchase).
- DENVER ROCK DRILL MANUFACTURING CO., THE, Denver, Colo.: "Waugh" valveless stoping drill and accessories (59579).
- DEVILBISS MANUFACTURING CO., THE, Toledo, Ohio: Apparatus for spraying paint, varnish, etc., on wood, metal, etc. (58950, loan).
- DIAMOND MATCH CO., THE, New York City: 46 specimens showing the various processes in the manufacture of matches (59781).
- DIBRELL, Mrs. JOSEPH B., Seguin, Tex. (trustee of statue, under the auspices of the Texas Fine Arts Association and Elisabet Ney Museum, Austin, Tex.): Marble statue of Lady Macbeth, by Elisabet Ney (59944, loan).
- DIMMOCK, GEO., Springfield, Mass.: Collection of biological material of long-horn beetles, Cerambycidae, with notes on the same; some Cuban roaches and blattids, and earwigs, forficulids (59482).

- DISCH, Mrs. H. J., Sicily Island, La.: 2 nests of a Baltimore oriole, *Icterus galbula*, from Louisiana (58847).
- DIXON, JOSEPH, CRUCIBLE Co., Jersey City, N. J.: Series of specimens of crude natural graphite ore, and examples of refined graphite and its application for various uses (58698).
- DODGE, BYRON E., Davison, Mich.: Deer skull, and 5 human skulls and 5 separate lower jaws found in a mound in Lapeer County, Mich. (59286).
- DODGE, HORACE A., Washington, D. C.: Original model of the McCurdy developing machine, patented August 26, 1902 (59161).
- DONALDSON, Miss HARRIET FENWICK, West River, Md.: Sampler worked by Ann Louisa Ghequiere of Baltimore, Md. (59228, loan).
- DOUGLAS, JOHN L., jr., Lynch Station, Va.: Archeological specimens of stone, bone, shell and pottery and an Indian skeleton, found near Lynch Station (59890).
- DOUGLASS, WILLIAM B., General Land Office, Washington, D. C.: Contents of a shrine in New Mexico, a small model and 4 photographs of the shrine and surroundings, a stone object from another shrine, and offerings from the War God shrine, Jemez Pueblo, N. Mex. (59271); 5 stone relics and a silver ornament, buckle, from New Mexico (59272, loan).
- DOWELL, PHILIP, Port Richmond, N. Y.: 8 specimens of plants from Washington, D. C., and vicinity (58732); 100 specimens of plants, *Sphagnum*, from Staten Island, N. Y. (58993). Exchange.
- DOWLING, Dr. THOMAS, Washington, D. C.: Railroad car-coupling link (58661, loan).
- DRURY, CHARLES T., London, England: 13 specimens of ferns from Sonora, Mexico (59006).
- DRUKKER, Hon. DOW H., Passaic, N. J.: Specimen of prehnite from Richfield, N. J. (58590).
- DUBLIN, UNIVERSITY OF, Dublin, Ireland (through Prof. L. White King): 58 archeological objects from Great Britain (59566, exchange).
- DU BOIS, A. D., Belton, Mont.: Skin of the Montana junco, *Junco hyemalis montanus* (58768).
- DUNN, E. R., Alexandria, Va.: 3 snakes from Virginia (58726).
- DUNN, L. H., Ancon, Canal Zone: 9 specimens of plants from Panama (59569).
- DUNNE, WM. P., Sherman, Tex.: Mollusk, *Limax flavus*, from Sherman (59002).
- DUNSHEE, B. H., Butte, Mont.: Specimen of copper sulphate from Silver Bow mine, Butte (59333).
- DURY, CHARLES, Cincinnati, Ohio: 11 species of beetles from Arizona, including 3 species new to the Museum collections (58931); 11 beetles, including 5 species new to the Museum collections (59507); 22 beetles, 11 species, including 2 cotypes of *Phlaeophagus variolatus* (59552, exchange).
- DYER, FRANCIS J., American consul, Ceiba, Honduras: Insects and mollusks from Lynchburg, Va., and New Orleans, La. (59019); about 300 specimens, 17 species, of mollusks, some plants, insects, snails and a lizard, all from Honduras (59068, 59267, 59371, 59551, 59553, 59665, 59738).
- ECONOMIST STAMP Co., New York City: 142 20th century, foreign postage stamps (59141, purchase).
- EGGLESTON, W. W., Bureau of Plant Industry, Washington, D. C.: 190 specimens of plants from Missouri (59801).
- EINSTEIN-WOLFF Co., New York City: 8 specimens of machine-embroidered net flouncings, showing the use of tinsel threads, a sample of machine-embroidered voile flouncing and 1 of Plauen metal lace (59190).
- EISENHAUER-MACLEA Co., Baltimore, Md.: 4 specimens of wood—1 each of mahogany, poplar, oak and cherry (59825, purchase).
- ELLIS, Miss CHARLOTTE C., Springerville, Ariz.: 23 specimens of plants from Arizona (59450).

- ELLIS, Miss NANNIE KENT**, Shawsville, Va.: A silk dress of the date of 1860 (58927, loan).
- ELMS & SELLON**, New York City (through Mr. N. W. Doorly): 7 samples of domestic cotton prints (59682).
- ERNEST, J. B.**, Washington, D. C.: 51 arrowpoints and spearheads from Montgomery County, Md. (59023).
- ERVING, Dr. W. G.**, Washington, D. C.: 4 lizards and some insects (59719).
- FALKENBACH, OTTO**, New York City: 8 casts of mastodon bones (59914, purchase).
- FARGO, Dr. L. W.**, Augusta, Ga.: Mass of siliceous septaria from Grovetown, Ga. (59403).
- FENDALL, Mrs. WILLIAM E.** (See under Tillinghast, Miss Edythe.)
- FERGUSON, JOHN C.** (See under Lewis, Mrs. Spencer.)
- FERGUSON, Miss PERCY**, Biloxi, Miss.: Larvæ and parasites of insects, *Empretia stimulea* (58854).
- FERNBACH, O. H.** (See under Panama-Pacific International Exposition.)
- FERRIER, W. F.**, Toronto, Ontario, Canada: 2 specimens of hyalite from Canada, and 1 of tennantite var. binnite from Switzerland (59354, exchange).
- FERRISS, JAMES H.**, Joliet, Ill.: 124 specimens, many of them cotypes, representing 24 species or subspecies of land shells belonging to the genera *Sonorella*, *Ashmunella*, *Oreohelix* and *Holospira*, from Arizona and New Mexico (59418).
- FEWKES, Dr. J. WALTER**, Bureau of American Ethnology: A skeleton and a small lot of potsherds, etc., excavated on an old camping site on Wolf Creek in the Panhandle, Tex., 7 stone objects from the Panhandle, and a stone ball from near Cortez, Colo., collected by the donor in the autumn of 1915 (59314); a double cup of decorated earthenware, collected by the donor on the Mesa Verde, Colo. (59840). (See under Rücknow, Leo.)
- FIELD, MARSHALL, & Co.**, Chicago, Ill.: 26 samples of printed drapery fabrics (59938).
- FIELD MUSEUM OF NATURAL HISTORY**, Chicago, Ill.: 47 specimens of ferns from Cuba and the United States (58890, 59414); 98 specimens of grasses (59053); 2 specimens of plants from Yucatan (59065, 59555); 18 specimens of ferns chiefly from Mexico (59241); 80-gram specimen of the Whitfield County, Ga., meteorite (59329); 227-gram piece of the Locust Grove, Ga., meteoric iron (59917). Exchange.
- FINK, Prof. BRUCE**, Miami University, Oxford, Ohio: 50 specimens of plants, *Sphagnum*, from Minnesota (59005, exchange).
- FISHER, GEO. L.**, Houston, Tex.: 123 specimens of plants from Texas (58570, 58636, 58785, 58990, 59242).
- FITZGERALD, D.**, Lawton, Okla.: Specimen of jasper quartz and of zircon in matrix (58841, 59642).
- FLETCHER, CHARLES R.**, Los Angeles, Cal. (through Dr. Fred. E. Wright, Washington, D. C.): Specimen of obsidian with lithophyses from Little Lake, Cal. (59768).
- FLETCHER, T. BAINBRIDGE**, Imperial entomologist, Pusa, India: 2 insects, *Chlorodryinus pallidus?* (58690).
- FLINN, Dr. M. A.**, Portland, Oreg.: Specimen of an alga, *Nostoc parmelioides*, from Washington (58730).
- FLORIDA STATE GEOLOGICAL SURVEY**, Tallahassee, Fla.: 6 specimens of plants from Florida (59013, exchange).
- FLOURNOY, JAMES C.** (See under Jones, Howard.)
- FOERSTE, Prof. AUGUST F.**, Dayton, Ohio: 75 bryozoans from the Richmond formation of Ontario, Canada (58798).
- FOOTE MINERAL Co.**, Philadelphia, Pa.: 2 specimens of zirkite from South America (59581, exchange); 15 specimens of meteorites (59918, purchase).
- FORD, JAMES H.**, Strang, Okla.: Clay-iron-stone concretion (58985).
- FOREST PRODUCTS Co.**, New Orleans, La. (through Mr. J. C. Mims): Series of specimens illustrating stages in the distillation of pine wood and the by-

- FOREST PRODUCTS Co.—Continued.
products obtained from the use of this process at the Slidell plant, Slidell, La. (59823).
- FORREST, W. R., Antigua, West Indies: 2 fossil corals from Antigua (59172); 209 land and fresh-water shells from Antigua and Barbuda, and a lot of bivalve crustaceans (59189).
- FÖRSTER, Prof. F., Oberkirch, Baden, Germany: Skin and skull of a New Guinea rat, *Mallomys* (59298, purchase).
- FOX, Miss EFFIE D., Dansville, N. Y.: Larva of a humming-bird moth, *Ampelophaga myron* (58711).
- FOX, Dr. HENRY, Bureau of Entomology, Washington, D. C.: About 500 Orthoptera and 25 miscellaneous insects, from Indiana and Virginia (59495).
- FOX, Dr. W. S., Assistant Surgeon, P. H. Service, U. S. Coast Guard Service, Washington, D. C. (through Dr. W. H. Dall): 28 marine shells from the beach, Unimak Bay, Unimak Island, Alaska (59950).
- FRANCE, COMMISSARIAT GÉNÉRAL DU GOUVERNEMENT FRANÇAIS A L'EXPOSITION UNIVERSELLE DE SAN FRANCISCO, 1915, San Francisco, Cal.: Examples of pharmaceutical products exhibited by Astier Pharmacie and Clin et Cie, Paris, specimens of animal products exhibited by M. Artus, Adjudicaire des Abattoirs, de la Ville de Paris, and a specimen of leather exhibited by Victor Lanier et Fils (59672).
- FRASER, LOVAT, New York City: 18 cut Montana sapphires and a cut kunzite (59785, purchase).
- FREDERICK, CHARLES, Frederick, Wyo.: Shallow metate found by the donor on the surface near Frederick (58737).
- FREMONT, Miss JESSIE BENTON, Washington, D. C.: Persian cat (59134).
- FREUND, THEODORE (through The Decorus Manufacturing Co., New York City): Silk scarfs spray-printed by means of the airograph machine (58851).
- FREYTAG, OSCAR E. (See under Oregon Commission, Panama-Pacific International Exposition.)
- FRIERSON, L. S., Frierson, La.: Fresh-water mussel, *Diplodon bednalli*, from Australia (58701).
- FROST, Dr. EDWIN B. (See under Chicago, University of, Yerkes Observatory.)
- FULL, WEBSTER, Cuba, Mo. (through Hon. Thomas L. Rubey): Spy glass (59201).
- FULTON, Miss ALMA, St. Francisville, La.: Specimen of fungus, *Mutinus ravenetii*, from Louisiana (59200).
- GALLOWAY, Dr. C. C., Washington, D. C.: Landscape in oil, by Diaz (59589, loan).
- GALLOWAY, J. J., University of Indiana, Bloomington, Ind.: Fragments of the types of 19 species of Paleozoic bryozoans (59740).
- GANT, WILLIAM M., and FRANK JORDAN, Sentinel, Ariz.: Lizard, *Sauromalus*, from Arizona (59604).
- GEE, Prof. N. GIST, Soochow University, Soochow, China: 45 invertebrate fossils and a small collection of insects, from Loen Nyen Jao, near Soochow (58641); small collection of insects and spiders (58700); 340 Chinese coins, consisting of 78 copper, 8 brass modern and 254 bronze antique specimens (58975); small collection of insects from South Carolina (59503).
- GEORGE, Mr. and Mrs. DAVE, Beaver, Utah: Stone amulet, earthen bowl and neck of an earthen bottle, found in mounds on the J. H. Bradshaw place, a mile east of Beaver (58743).
- GEORGIA MARBLE Co., Tate, Ga. (through Ward's Natural Science Establishment, Rochester, N. Y.): Rough trimmed block of crystalline limestone (58760).
- GERNERT, W. B., Illinois Agricultural Experiment Station, Urbana, Ill.: Specimen of the so-called "branch corn," *Zea ramosa* (59426).
- GIBSON, Mrs. T. G., Meadow Gap, Pa.: Indian pipe of cavern alabaster, from a prehistoric cave in West Virginia (59106, purchase).
- GILBERT, J. Z., Los Angeles, Cal.: Type specimen of the fossil fish *Erestes jordani* (58853).

- GILHAM, F. M., Highland Springs, Cal.: Miniature Pomo Indian basket (59375).
- GILL, DE LANCEY. (See under Conger, Frank B.)
- GILL, Mrs. MARY WRIGHT, Washington, D. C.: Set of Chinese chess in carved ivory (59144); a fan, 4 parasols, a gentleman's white satin vest and a collection of ladies' wearing apparel, of the early 19th century (59734). Exchange.
- GILLETT, Mrs. ALFRED S., Washington, D. C.: Tortoise-shell cardcase inlaid with mother-of-pearl (59024, loan).
- GILLETTE, Maj. CASSIUS E.: Earthenware head from Guadalcagar, San Luis Potosi, Mexico (58904).
- GLENN, MILTIADES L., Erie, Pa.: Specimen of anorthoclase feldspar from the Hartshorn Quarry, Essex County, N. J. (58814).
- GODDARD, J. W., & SONS, New York City: Sample of resilient dress lining, "Witchtex," made from wood pulp (59925).
- GODSON, Miss ELIZABETH, Washington, D. C.: 10 small specimens of Philippine woods mounted in frame of Philippine molave wood (59824).
- GOLISCH, W. H., Los Angeles, Cal.: 50 specimens, 4 species, of land shells from Santa Barbara Islands, Cal. (59289).
- GOOD, C. A., Smith's Cove, Nova Scotia: 4 chalcid flies, the types of *Halticoptera goodi* (58932).
- GORDON, SAMUEL G., Academy of Natural Sciences, Philadelphia, Pa.: Specimen of ceruleolactite from Chester County, Pa. (59517).
- GOVERNEUR, Miss MAUDE CAMPBELL, Washington, D. C. (through Mrs. R. G. Hoe): A pair of Sheffield plated candlesticks owned by Mrs. Monroe and used at the White House during the administration of James Monroe, 1817-1825, and a pair of Sheffield plated candlesticks marked with the Hazard crest (58696); piece of blond lace embroidered in red flowers and green leaves (59694). Loan.
- GRAND PRE, E. A., Willard, Utah: Grooved hammer and a bone awl, GRAND PRE, E. A.—Continued. found on the surface near Willard (58736).
- GRAND PRE, EDGAR, Willard, Utah: Discoidal rubbing stone found by the donor on the surface near Willard (58735).
- GRANT, J. M., Sequim, Wash.: 25 crustaceans, consisting of 15 specimens of *Hemigrapsus nudus* and 10 of *H. oregonensis*, collected by the donor (58578); 83 specimens of plants from Washington (59445).
- GRAVES, Prof. A. H., Yale University, New Haven, Conn.: 150 specimens of plants, *Sphagnum*, from Georgia and North Carolina (59041, exchange).
- GREEN, Prof. E. C., Washington, D. C.: 3 living specimens of Cactaceae from State of Rio Grande do Norte, Brazil (59104).
- GREENE, Dr. EDWARD L., Notre Dame University, Notre Dame, Ind.: 29 specimens of plants (58544).
- GREENE, G. M., Philadelphia, Pa.: 3 Diptera, *Euparyphus tetraspilus* (58933).
- GREENHOUGH, DAVID, Kanab, Utah: Flint knife and 3 earthenware vessels, collected by the donor at the mouth of Johnson Canyon, about 15 miles east from Kanab (58738).
- GREENLEAF, RICHARD CRANCH, Lawrence, Long Island, N. Y.: A coat worn by John Adams, and a brooch containing locks of hair of John Adams, Abigail Adams, and John Quincy Adams (59931, loan).
- GREENWOOD, J. K., Co., Paterson, N. J.: 3 sample twin skeins of thrown silk, especially dyed and reeled for weaving colored check and plaid ribbons, and 10 samples of check and plaid ribbons woven from the twin skeins (58983).
- GRIGGS, Prof. R. F., Ohio State University, Columbus, Ohio: 100 specimens of plants, *Sphagnum*, from Ohio (59039, exchange).
- GRONBERGER, S. M., Smithsonian Institution: 6 specimens of 3-color printing process, rubber offset and rotary intaglio (59237).

- GROSVENOR, GILBERT H., Washington, D. C.: Snake, *Heterodon constrictor*, from Maryland (59769).
- GUIROLA, Señor DON RAFAEL, San Salvador, Salvador (through Mr. George Mixer, Boston, Mass.): Deer from San Salvador (59830).
- GUM LUMBER MANUFACTURERS' ASSOCIATION, Memphis, Tenn.: Red gum board (59877). (See under Hardwood Products Co., and Louisville Veneer Milla.)
- GUNTHER, C. F., Chicago, Ill.: Painting of Christopher Columbus, by Sir Antonio Moro, about 1545 (59710, loan).
- HAGGOTT, ERNEST A., Battle Mountain, Nev. (through Mr. Frank L. Hess, Washington, D. C.): Specimens of wood tin and associated rock (58812).
- HALTON'S SONS, THOMAS, Philadelphia, Pa.: 200-hook, single-lift Jacquard machine (58833).
- HAMBLIN, F. M., Kanab, Utah: Part of a stone pestle, found by the donor about 25 miles northeast of Kanab (58741).
- HAMET, RAYMOND, Museum d'Histoire Naturelle, Paris, France: Specimen of a plant, *Kalanchoe rosei*, from Madagascar (59530, exchange).
- HAMILTON, DR. ALLAN McLANE, Great Barrington, Mass. (through Library of Congress, Washington, D. C.): Desk used by Alexander Hamilton (59850).
- HAMMOND, E. H., Albuquerque, N. Mex.: 45 ethnological objects from the Philippine Islands, collected by the donor (58765).
- HAMMOND, Prof. H. S. (See under Oregon Agricultural College.)
- HAMPSHIRE, H., Jacksonville, Fla.: Rhinoceros beetle, *Strategus antaeus* (58650).
- HARDWOOD PRODUCTS Co., Neenah, Wis. (through Gum Lumber Manufacturers' Association): Sample red gum door (59844).
- HARMER, DR. H. B., Philadelphia, Pa.: Model of the breech mechanism of a double-barrel shotgun (59870).
- HARRIMAN, Mrs. E. H., New York City: Oil portrait of Abraham Lincoln, by HARRIMAN, Mrs. E. H.—Continued.
George H. Story, presented to the National Gallery of Art as a Lincoln's birthday gift (59431).
- HARRIS, EDWARD D., New York City: 14 specimens, 10 species, of tiger beetles, Cicindelidae, including cotypes of 2 species (59480).
- HARRIS, Miss GRETCHEN D., Gallup, N. Mex. (through Bureau of American Ethnology): Indian vase from Arizona (59001).
- HARRIS, Capt. J. R., Medical Corps, U. S. Army, Boston, Mass.: 19 Moro and other ethnological objects (59335).
- HARRIS, Miss MARY G., Pittsburgh, Pa. (through Mr. William S. Sparks, Cumberland, Md.): Nest of a blue-gray gnatcatcher, *Poliophtila caerulea*, from Maryland (59880).
- HARRISON, Hon. CARTER H., Chicago, Ill.: 8 trout from the High Sierras (58907).
- HARVARD UNIVERSITY, Cambridge, Mass.: *Arnold Arboretum* (Jamaica Plain): 500 specimens of plants collected in China by Mr. E. H. Wilson (59442, purchase); 75 specimens of plants from the United States and Alaska (59447, exchange).
Museum of Comparative Zoology: 20 reptiles and batrachians from the West Indies, South America and elsewhere (58573, 59845). Exchange
- HATCH, MARK BURCKLE (through Mrs. John Porter Hatch, Flushing, Long Island, N. Y.): Silver tray, pitcher, and 4 goblets, presented to Bvt. Maj. Gen. John Porter Hatch, U. S. Volunteers, in recognition of services during the War with Mexico, the Indian expeditions of 1857-1859, and the Civil War, sword presented to him in recognition of services during the Civil War, and uniform coat worn by him when lieutenant during the War with Mexico (59476).
- HAWAII HARDWOOD Co., LTD., Pahoa, Hawaii: A specimen each of koa and ohia woods (59841).
- HAY, Dr. O. P. (See under Strecker, John K.)

- HAY, Dr. W. P., Washington, D. C.: 5 trematodes, *Hirudinella clavata*, from the gills and throat of a sail-fish taken at Beaufort, N. C. (58673).
- HAYES, Col. WEBB C., Fremont, Ohio: White satin dress worn in the White House by Mrs. Rutherford B. Hayes, a lace handkerchief, and a framed photograph of Huntington's portrait of Mrs. Hayes now in the White House (59265, loan).
- HAYNES, Miss CAROLINE C., Highlands, N. J.: Drawing of an hepatic, *Porella bolanderi* (59378).
- HEATON, C. D., Rochester, N. Y.: Specimens of mineral, hewettite (58815, purchase).
- HEIKES, VICTOR C. (See under MacVichie, Duncan; and Schwalenberg, L. G.)
- HEITMULLER, ANTON, Washington, D. C.: 68 heating and illuminating devices and other anthropological material (59128); antique amber bead, German (59629). Exchange. (See under Lenman, Miss Isobel H.)
- HELLER, A. A., Chico, Cal.: 34 specimens of plants from California (58870); 300 specimens of plants from California (58921, purchase).
- HENDERSON, JOHN B., Washington, D. C.: About 3,000 marine invertebrates, collected by the donor off the coast of Florida (59126, 59947); 7,000 land and fresh-water shells, 5 fishes and 3 bird skins, collected in Cuba by Messrs. Henderson and Bartsch (59948). (See under Torre, Carlos de la.)
- HENDERSON, Dr. JUAN, Matagalpa, Nicaragua: Lantern-fly, *Laternaria servillei* (59147).
- HENDERSON, Judge JUNIUS, University of Colorado, Boulder, Colo.: 20 specimens, 9 species, of Philippine mollusks (58911).
- HENKEL, Miss ALICE, Bureau of Plant Industry, Washington, D. C.: Specimen of a fern, *Asplenium ebennoides*, from the vicinity of Washington (58849).
- HENRIKSEN, KAJ L., Copenhagen, Denmark (through Dr. A. G. Bøving, Washington, D. C.): Larvæ of 14 species
- HENRIKSEN, KAJ L.—Continued.
of Danish click-beetles, Elateridæ (58686).
- HENRY, J. K., Vancouver, British Columbia: 32 specimens of willows from British Columbia (59238).
- HESS, FRANK L. (See under Haggott, Ernest A.; and Kozlowski, Roman.)
- HEWETT, D. F., U. S. Geological Survey, Washington, D. C.: A stone maul and a chert blade from Wyoming, collected by the donor (58681).
- HEYE, GEORGE G., Museum of the American Indian, New York City: 4 skeletons, with skulls, from the Nacoochee Mound, White County, Ga., collected by the donor (58773); collection of skeletal material from Tennessee (59348); plaster cast of a stone carving (Eakimo lamp), the original of which was found while excavating on the banks of the Kenai River, Alaska (59788).
- HIBBARD, RAYMOND R., Buffalo, N. Y.: About 240 Devonian fossils from western New York (58627, 58795); slab of bryozoans from the Trenton limestone of New York (59765). Exchange.
- HIGHSMITH, J. A., Takoma Park, D. C.: Young turkey vulture, *Cathartes aura septentrionalis*, from Takoma Park (59888).
- HILL, Mrs. C. (See under Thompson, Mrs. Burton.)
- HILLERS, J. K., Washington, D. C.: 10 transparencies of Yellowstone National Park views (59923, purchase).
- HILTON, Dr. WILLIAM A., Pomona College, Claremont, Cal.: About 65 crustaceans collected at Laguna Beach, Cal. (59379). (See under Pomona College.)
- HINKLEY, A. A., Du Bois, Ill.: 228 specimens, 12 species, of land shells from Du Bois (59255).
- HIRASE, Y., Okazaki, Kyoto, Japan: 40 specimens, 21 species, of mollusks from Japan (59085).
- HISER, ANTHONY, Hyattsville, Md.: Dragonfly from Hyattsville (58693).
- HITCHCOCK, Prof. A. S., Bureau of Plant Industry, Washington, D. C.: Specimen of violet from Maryland (59717).

- HÖHNKE, F. C., Museu Nacional, Rio de Janeiro, Brazil: Specimen of a cactus, *Pereskia* (58922).
- HOES, GOUVERNEUR and LAURENCE GOUVERNEUR, Washington, D. C.: 3 waistcoats worn by President James Monroe and 2 dresses worn by Mrs. Monroe (59452, loan).
- HOES, Mrs. R. G., Washington, D. C.: Pair of child's red shoes with pointed toes, white kid slipper of 1672, pair of Colonial slippers, a handkerchief of lace and 1 of drawn work, 2 pieces of white knit lace, pair of lace cuffs, a collection of 12 pieces of lace, and an olive-wood card case (58601); an infant's dress of white linen lawn and 1 of white lawn (58607); a framed map of the world, embroidered and painted on silk in 1813 by Christina M. C. Cantine (58646); 2 books owned by President James Monroe, 3 leather wallets and 3 samplers, early 19th century, a framed photograph of Barbara Freitchie, 3 copperplates, and a doll's teaset and jug of papier-mâché (58656); 2 compotiers and 6 plates, used by President Monroe and now owned by Mr. Grafton Spurrer (58846); a comb which belonged to Mrs. James Monroe (59025); collection of weapons and war objects, and other anthropological material (59073); 2 lilac brocaded silk dresses worn by Mrs. John Hay when her husband was Secretary of State, 1898-1905 (59836). Loan. (See under Cumming, Mrs. Gordon; Gouverneur, Miss Maude Campbell; and Lower, Mrs. Mary Norton.)
- HÖGLUND, Mrs. M., Falconer, N. Y.: Abnormal egg of a domestic fowl (59529).
- HOLCOMB, BENTON, Simsbury, Conn.: 19 specimens, 3 species, of fresh-water mollusks from Connecticut (59326).
- HOLLISTER, N., U. S. National Museum: Henslow's bunting, *Passerherbulus henslowi*, from Wisconsin (59004).
- HOLM, Dr. THEODOR, Brookland, D. C.: Specimen of a sedge, *Carex*, from Maryland (58611); 4 specimens of ferns from Porto Rico (58729); 8 specimens of ferns from the United States (59160).
- HOLMES, WILLIAM H., U. S. National Museum: Earthenware vase from Oaxaca (?), Mexico, collected by Eugene Boban in 1886 (59783).
- HOLWAY, Prof. E. W. D., University of Minnesota, Minneapolis, Minn.: 61 specimens of parasitic fungi, chiefly from Guatemala and Jamaica (58860, exchange); 163 specimens of Central American plants (59622).
- HOLZ, LEO L., Los Angeles, Cal.: Spider, *Peucetia viridans* (58749).
- HOMER COMMUTATOR Co., Cleveland, Ohio (through Mr. F. P. Wilds, Keene Mica Products Company, New York City): Motor commutator, halved to show mica insulation (59434).
- HOOVER, S. C., Takoma Park, D. C.: 4 daguerreotypes, 3 tintypes and 10 ambrotypes (58555).
- HOPKINS, L. S., Kent, Ohio: 5 specimens of ferns (59026).
- HOUGH, Dr. WALTER, U. S. National Museum: 3 bronze 5 centavo pieces of the State of Chihuahua, Mexico, issued in 1915 by the Constitutionalist Army under the direction of Francisco Villa (59429); a flint arrowpoint and a fossil horse-tooth, collected by Mr. P. C. Bicknell in the Grand Canyon, 20 miles south of Bright Angel trail, Coconino County, Ariz. (59590).
- HOUSE, Dr. H. D., Albany, N. Y.: 90 specimens of plants, *Sphagnum*, collected in North Carolina and Michigan (59000). (See under New York State Museum.)
- HOUSTON, H. I., Washington, D. C.: Double-barrel shotgun made by Parker Bros., Meriden, Conn. (58580).
- HOWELL'S MICROCOSM, Washington, D. C.: Relief map of Yellowstone National Park, colored to show geology (59699, purchase).
- HOWLAND, Mrs. JOHN C., Washington, D. C.: Greek testament (59090).
- HEDLIČKA, Dr. ALEŠ, U. S. National Museum: Mole, *Scalopus*, from the District of Columbia (59139).
- HUCKABAY, DE WITT, Rector, Ark.: Large chipped blade, mound builder's hoe (59776, purchase).

HUSTON, M. B., Philadelphia, Pa.: Small poisoned arrow used by the natives at the headwaters of the Atrato River, Colombia, South America, and 4 frogs from which the poison is taken (59143).

HYDE, FREDERIC BULKELEY, Washington, D. C.: Insect, *Phragmatobia assimilans* (58684); mouse, *Zapus hudsonicus hudsonicus*, from Maine (58779); 2 cocoa fiber garments from Samoa (59689).

IDDINGS, Prof. JOSEPH P., Washington, D. C.: 2 obsidianites from Borneo and a specimen of Darwin glass from Loftus Hills, Tasmania (59136); 8 specimens of phosphate rock from Ocean and Makatea Islands, and a boulder of diatomaceous earth from Uahuka (59546).

IDA, Prof. Y., Kagoshima, Japan: 12 specimens of volcanic material from Japan (59123, purchase).

ILES, GEORGE, New York City (through Prof. F. W. Clarke): Silver medal designed by Georges Lemaire in 1910, commemorating the Franco-Prussian War of 1870-1871 (59075).

INDIANA UNIVERSITY, Bloomington, Ind.: Collection of fishes from Colombia and Ecuador (59572, exchange).

INGERSON, CHARLES FRANK, Superintendent, Arts & Crafts Section, Panama-Pacific International Exposition, San Francisco, Cal.: 24 specimens of art pottery, made by Newcomb Pottery, New Orleans, La.; Bertha Heise, South Pasadena, Cal.; Paul Revere Pottery, Boston, Mass.; C. R. Thomas, The Tile Shop, Berkeley, Cal.; and Adelaide Alsop Robineau, New York (59606, purchase).

INTERIOR, DEPARTMENT OF:

Incomplete skeleton of a child, together with a bowl and some shell beads discovered by Mr. Spellmeyer near a ruin west of Cibecue Creek, Apache Reservation, Ariz., and received through Mr. W. M. Peterson, superintendent of Fort Apache Indian School (59163); 6 buffalo skulls and 3 scalps, 30 coyote skulls and 24 skins, 3 wolf skulls and a grizzly bear skull, received from Yellowstone National Park (58538, 59416, 59725).

INTERIOR, DEPARTMENT OF—Continued.

U. S. Geological Survey: Pink beryl gem from Mount Apatite, Auburn, Me., received from Mr. N. G. Smith and Mr. M. L. Keith (58596); collection of phosphate rocks, etc., from Florida and southern Georgia, made largely by Mr. G. H. Eldridge, and corundum and associated materials from North Carolina (58678); 14 boxes of geologic specimens collected by Dr. T. Nelson Dale, illustrating various topographic sheets in the Taconic region (58794); about 300 minerals, chiefly from California (58863); 4 specimens of gastroliths collected by Mr. D. F. Hewett from the Morrison formation, Wyo. (58895); a series of iron ores and related rocks, illustrating a report on the Hartville iron-ore range, Wyo., by Mr. S. H. Ball, published in Survey Bulletin 315 (58945); 2 specimens of calcite with included fibers of marcasite, and a geode lined with calcite and pyrite crystals (59021); specimen of peridotite collected by Mr. Joseph Ward near Bagdad, Cal. (59051); 3 teeth and jaw fragments of the fossil mammal *Coryphodon*, collected by Mr. Ralph W. Howell from the Eocene near Pumpkin Buttes, Powder River Basin, Wyo. (59095); mass of crystallized fluorspar from the Lead and Fluorspar mines, Rosiclare, Ill., received from Mr. E. F. Burchard (59096); 2 small collections of Eocene fishes obtained by Mr. Dean E. Winchester from the Green River formation in southern Wyoming and northeastern Utah (59097); 18 small lots of vertebrate fossils, chiefly Miocene, obtained by Mr. Arthur J. Collier in the northeast Montana lignite field (59098); 58 Upper Cretaceous corals described by Dr. L. W. Stephenson (59137); 11 thin sections of Richmond, Va., granites reported on by Mr. E. S. Bastin in Survey Bulletin 483, and 8 from rocks described in Survey Folio 150 (59173); small collection of fossil camel bones obtained by Mr. Edwin S. Giles near Goldfield, Nev. (59180); 10 current meters (59263); about 1,019 lots and over 3,000 species of Tertiary invertebrate fossils from the Atlantic and Gulf coastal plain of the United

INTERIOR, DEPARTMENT OF—Continued.

States (59277); 3 collections of Devonian invertebrates, including about 500 specimens representing 150 species, studied and described by Dr. E. M. Kindle in Bulletin of American Paleontology, Vol. 4, and Survey Bulletins 391 and 508 (59318); 350 Niagaran fossils from Indiana, including 190 type and figured specimens described by Dr. Kindle and Mr. C. L. Breger in the 28th Annual Report of the Department of Geology and Natural Resources of Indiana (59596); specimens from the nitrate deposits in southern Idaho and eastern Oregon, collected by Mr. G. R. Mansfield and described in Survey Bulletin 620-B (59432); specimens representative of the geology and ore deposits of the Helena mining region, Mont., described by Dr. A. Knopf in Survey Bulletin 527 (59520); model of deep placer mining in frozen ground, a relief map of Alaska, and a bridge model showing Alaska transportation, exhibited at the Panama-Pacific International Exposition, 1915 (59588); rock specimens from the Apishapa quadrangle, Colo., representing the Cretaceous sedimentary rocks described by Mr. G. W. Stoes in Survey Folio 186 (59631); ores of Alaska and coal samples of the United States, exhibited at the Panama-Pacific International Exposition, 1915 (59659); 11 specimens of nepheline syenite and associated rocks from near Brookville, N. J., with thin sections, described by Mr. F. L. Ransome in American Journal of Science, Volume 8 (59713); 3 small lots of reptilian fossils from the Judith River formation and 1 lot of recent or Pleistocene mammal bones, collected by Mr. Eugene Stebinger in the Milk River region, northern Montana (59723); approximately 100 fossil plants from the Fox Hills formation of the Greeley quadrangle, Colo., obtained by Dr. T. W. Stanton and Mr. T. E. Williard in 1914 and 1915, including the types and figured specimens described by Dr. F. H. Knowlton in Professional Paper 98-H (59893); collection of late Cretaceous plants, invertebrates, and vertebrates,

INTERIOR, DEPARTMENT OF—Continued.

obtained by Mr. C. M. Bauer in the San Juan Basin, northwestern New Mexico, including the types and figured specimens described by Dr. Knowlton, Dr. Stanton and Mr. C. W. Gilmore in a forthcoming Professional Paper of the Survey, and containing about 40 forms (200 specimens) of plants, 30 forms (1,000 specimens) of invertebrates, and 9 forms (30 specimens) of vertebrates (59894); 20-pound bar of antimony, made by the Chapman Smelting Company, San Francisco, Cal. (59929).

INTERNATIONAL GLASS CO., THE, Millville, N. J.: 30 miniature lamp chimneys (59883, purchase).

JACKSON, MISS FANNIE (through Mrs. Julian-James): Silk patchwork quilt made by Mrs. Thomas R. Jackson (Charlotte B. M. Jackson) in 1900 (59266, loan).

JACOBS, MICHEL, Washington, D. C.: Plaster medallion bas-relief portrait casts of Susan B. Anthony and William Jennings Bryan, made by the donor (59074).

JACOBS, WILLIAM L., & SON, Oglala, S. Dak.: Portion of the skull of a fossil mammal, *Entelodon imperator* (59739).

JAHN, DR. ALFREDO, Caracas, Venezuela: 63 specimens of plants from Venezuela (58891, 59437). Purchase.

JAMES, MRS. JULIAN-, Washington, D. C.: Small, framed half-tone picture of a statue of Thomas Jefferson, at the University of Virginia, the original of which was designed by Carl Bitter (58599); hexagonal tile bearing a bas-relief portrait of President Lincoln (58655, loan); black beaver hat of the style of 1800 and a black beaver stovepipe hat worn about 1850 (58845); doll's chair and trunk (58917, loan); pair of black satin button shoes with red silk lining (59120, loan); open, gold-faced, gold watch, with gold chain and seal (59391, loan); embroidered map of the State of New York (59802, loan); black silk and satin checked dress worn by Mrs. James' mother, Mrs. Theodorus Bailey Myers (59875, loan); purple velvet skirt and 2 waists, elaborately

JAMES, MRS. JULIAN—Continued.

corded with white silk, a purple silk parasol and a purple silk fan with ivory sticks, owned by Mrs. Abraham Lincoln (59902, loan); engrossed copy of the appointment of Sidney Mason as consul at St. Johns, P. R., dated September 8, 1829 (59903, loan). (See under Clement, Mrs. Erskine; Crane, Mrs. W. Murray; Jackson, Miss Fannie; Mason, Mrs. Sidney; and Zimmerman, Mrs. J. E.)

JANOWSKI, M., Roxbury, Mass.: 2 Turkish bronze coins, 40-para pieces, issued in 1860 (59525).

JAPAN. HIS IMPERIAL JAPANESE MAJESTY'S COMMISSION TO THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION, 1915, San Francisco, Cal. (through Mr. H. Yamawaki, commissioner general): Miscellaneous collection of exhibits from the Japanese Section at the Exposition (59674).

JAPAN EXPOSITION SOCIETY, PANAMA-PACIFIC INTERNATIONAL EXPOSITION, 1915, San Francisco, Cal.: 2 specimens of cut velvet work, "Yuzen Birodo," illustrating steps in the Yuzen process of dyeing (59281); a pearl shell containing a culture pearl, 6 samples of cotton, silk, and mixed fabrics, 9 samples of wood splints, chip braids and chip mattings, and 10 specimens of long, green timber bamboos (59283, purchase).

JEPSON, MRS. VINNIE, Kanab, Utah: Earthenware jar from Utah, collected by the donor (58740).

JOAN OF ARC STATUE COMMITTEE, New York City (through Dr. George F. Kunz, president): Piece of the stone taken from the dungeon at Rouen where Joan of Arc was imprisoned, and a bronze medal struck from the special die commemorating the erection of the Joan of Arc statue, designed by Miss Anna Vaughn Hyatt and unveiled at Riverside Drive and 93rd Street, New York City, on December 6, 1915 (59181).

JOHNSON, COWDIN & Co., New York City: Sample of silk grosgrain ribbon—design, "State Flower Bouquet," with original

JOHNSON, COWDIN & Co.—Continued.

draft of design and diagram of the flowers represented (58867).

JOHNSON, FRANK R., Weyers Cave, Va.: Leaf-shaped blade and 40 arrowpoints and spearheads, found 3 miles east of Weyers Cave (59183).

JOHNSON, HARRY L., South Meriden, Conn.: 18 Japanese beetles (58938).

JOHNSON, RALPH CROSS, Washington, D. C.: 25 oil paintings (59871, loan).

JOHNSON, TOM B., San Antonio, Tex.: 8 specimens of the introduced European agate snail, *Rumina decollata*, from San Antonio (59417).

JOHNSTON, E. C., Bureau of Fisheries, Washington, D. C.: 15 mollusks, *Lymnaea columella macrostoma*, from Chevy Chase Lake, Md. (59193).

JOHNSTON, EARL LYND, Fort Lupton, Colo.: 16 specimens of plants from Colorado (59194).

JOHNSTON, Dr. J. R., Santiago de las Vegas, Cuba: 7 living specimens of Cactaceae from Cuba (59636).

JOHNSTON, Maj. W. T., U. S. Army, Washington, D. C.: Collection of Filipino weapons and a polo stick (59886).

JONES, DAVID P., U. S. National Museum: Canadian silver quarter-dollar issued in 1911 (59953).

JONES, HOWARD, Mexico, Mexico (through Mr. James C. Flournoy, Washington, D. C.): 2 antique Spanish swords (59945, loan).

JONES, MARCUS E., Salt Lake City, Utah: 2 living specimens of a cactus, *Mamillaria*, from Utah (58540); 3 specimens of plants, *Chrysothamnus*, from Utah and Nevada (58665, exchange); fragment of the type of a plant, *Acleisanthes nummularia* (59515).

JORDAN, FRANK. (See under Gant, William M.)

JORGENSEN, PEDRO, Andalgalá, Argentina: 124 specimens of plants from Argentina (59248, purchase).

JOYNER, F. M., Lake Weir, Fla.: Turtle, *Clemmys guttata*, from Florida (58546).

JUDD, NEIL M., U. S. National Museum: 178 arrowpoints, stone pendants, etc.,

JUDD, NEIL M.—Continued.

and a Navaho comb, collected by the donor in Utah, Arizona, and New Mexico, during the years 1907-1910 (58716).

KANSAS, MUSEUM OF UNIVERSITY OF, Lawrence, Kans.: 18 lizards from Kansas (59587).

KEARNEY, T. H. (See under Maxon, William R.)

KEFFER, WILLIAM, Philadelphia, Pa.: 13 specimens showing the steps in the manufacture of a tobacco pipe from western red gum (59798).

KELLERS, H. C., U. S. Navy, Honolulu, Hawaii: Amphibians and reptiles from California (58839, 59603).

KELSEY, Mrs. ALBERT WARREN, Philadelphia, Pa.: China teapot and waste bowl, used before 1853 at Mineral Point, Wis., by Jeanette Garr Washburn (59184); a work entitled "Some notes on the Evesham branch of the Washbourne family," by E. A. B. Barnard, F. S. A. (59219).

KELSEY, Prof. F. W., San Diego Commercial College, San Diego, Cal.: 79 land and fresh-water shells from San Diego County (58879); 43 mollusks, *Epiphragmophora stearnsiana*, from Pacific Beach, Cal. (58986).

KEW, ENGLAND, ROYAL BOTANIC GARDENS: Specimen of a fern, *Notholena cinnamomea*, from Guatemala (58585); 41 specimens of plants from eastern Africa (59680); fragment of the type of a plant, *Lonchocarpus obovatus* (59811). Exchange.

KEYSER, E. W., Washington, D. C.: 8 Etruscan antiquities (58828, 58900); Yankton Sioux headdress, and a pianeta (chasuble) of yellow brocade, Italian, 16th century (58874, exchange); obsidian core and spearhead, from Mexico (59056); 5 wood carvings and a clay pipe of the Igorot, and a crescentric brass box of the Moro (59557, exchange).

KING, Lieut. RUFUS, U. S. Navy, Washington, D. C.: A gold-mounted and jeweled sword with scabbard, presented by the 19th Regiment, Indiana Volunteers, in 1862, to Brig. Gen. Rufus King, U. S. Volunteers, and a rapier with scabbard owned by him prior to the Civil War (59654, loan).

KIRK, Dr. EDWIN, U. S. Geological Survey, Washington, D. C.: 100 mollusks, *Cincinnati cincinnatiensis*, collected near Big Pine, Lake Beds, Owens Valley, Cal. (59471).

KITE, Miss REBECCA, Jamaica Plain, Mass., and Miss MARY J. RATHBUN, Washington, D. C.: 4 snakes, 4 toads, 3 mice, 2 shrews, larva of a sphingid moth, larvæ of a sawfly, and 19 specimens of mosses and lichens, collected in New Hampshire (58621, 58642, 58722, 58755, 58878).

KLEIN, EUGENE, Philadelphia, Pa.: 11 charity war stamps (59069).

KLETTZ, A. B. and E. F., Salisbury, N. C.: Specimen of quartz with native gold, from near Concord, N. C. (59249).

KLOSS, C. BODEN, Selangor Museum, Kuala Lumpur, Federated Malay States, and Dr. WILLIAM L. ABBOTT: 197 mammals, 133 birds and 98 reptiles, from southeast Siam (59599).

KNAB, FREDERICK, Bureau of Entomology, Washington, D. C.: About 125 Diptera of the family Syrphidae, from the vicinity of Washington, and 140 flies, tabanids, from the same region (59492).

KOCH, WALTER E., Terlingua, Tex.: Bat, *Antrozous pallidus*, from Texas (58613).

KOTRBA, FRANK J., U. S. National Museum: 3 eggs of a black-billed cuckoo, *Coccyzus erythrophthalmus*, from Washington, D. C. (59380).

KOZŁOWSKI, Dr. ROMAN, Escuela Nacional de Minería, Oruro, Bolivia (through Mr. Frank L. Hess, Washington, D. C.): Small collection of tin ores and associations, from Bolivia (58713).

KRAUSE, WILL H., Bainbridge, Ga.: Fossil shell, *Cassidulus subquadratus*, from Bainbridge (58674).

KREMER, Rev. ELLIS N., Harrisburg, Pa.: 14 stone implements found near Harrisburg (59425).

KRYGER, J. P., Gjentofte, Denmark (through Dr. A. G. Bøving, Washington, D. C.): 26 vials of Hymenoptera, including a paratype of *Cephalobaris eskelindi*, and 21 vials of Diptera (59547).

- KUENS, D. B., Honolulu, Hawaii (through Mr. Wilhelm Busck, Washington, D. C.): 38 species of mollusks, Achatinellidæ, from the Hawaiian Islands (59009).
- KUNZ, Dr. GEORGE F. (See under Avery, Samuel Putnam, Medal Committee; Joan of Arc Statue Committee; and New York City, Citizen's Committee.)
- KUNZÉ, Dr. RICHARD E., Phoenix, Ariz.: 2 butterflies representing 1 of each sex of *Anthocharis pima*, from Arizona (59500).
- KURSHEEDT MANUFACTURING CO., THE, New York City: 3 original embroidery designs, 2 enlarged designs for a hand-operated Schiffli machine, punched paper pattern for embroidery automat, 6 needle-nippers for Saurer power machine, auto parts to control Groebli jacquard, and 10 samples of machine-embroidered voiles (59122).
- LAMB, Dr. D. S., Army Medical Museum, Washington, D. C.: 2 anatomical specimens (58837, 59849).
- LANDON, E., Washington, D. C.: Sample of pyrophyllite from Waterford, Va. (59278).
- LANGDON, Miss HARRIET N., Cincinnati, Ohio: 53 coins of the United States, England, France, Spain and Mexico, and a United States token (59102).
- LANGWORTHY, Dr. CHARLES F. (See under Thompson, Mrs. Burton.)
- LAPOUGE, G. DE, Poitiers, France (through Dr. A. G. Bøving, Washington, D. C.): Larvæ of Coleoptera, including 21 forms (59502, exchange).
- LATHEROP, Miss M. S., Lebanon, N. H.: Gold locket worn by Miss Abigail Fillmore, daughter of President Millard Fillmore (59702).
- LAWTON, Miss CATHERINE, Washington, D. C.: Glass punch set of 15 pieces owned by Maj. Gen. Henry W. Lawton, U. S. Volunteers, father of the donor (59650).
- LAWTON, MANLEY, Washington, D. C.: Gold watch and chain presented by the cattlemen of central New Mexico to the donor's father. Maj. Gen. Henry W. Lawton, U. S. Volunteers, in 1886, when Captain, 4th U. S. Cavalry in recognition of his services in connection with the capture of the Apache Indian chief, Geronimo (59641); bronze Medal of Honor awarded by Congress to Gen. Lawton when Lieutenant Colonel and Inspector General, United States Army, for distinguished gallantry in battle at Atlanta, Ga., August 3, 1864, and an ivory memorandum pad used by Gen. Lawton during the Civil War (59731).
- LAWTON, Mrs. MARY C., Washington, D. C.: Collection of relics of Maj. Gen. Henry W. Lawton, U. S. Volunteers, husband of the donor (59545).
- LAYTON, Miss FLORENCE W., Washington, D. C.: 9 specimens of plants from Virginia (59307).
- LEA, ARTHUR M., Adelaide, Australia: About 1,900 named specimens, representing 958 species, of Coleoptera (purchase and gift) (59857).
- LEDERLE ANTITOXIN LABORATORIES, Pearl River, N. Y.: A series of typical packages of manufactured biological products, including antitoxins, serums and vaccines (59571).
- LEE, Miss MARY CUSTIS, Jamestown, N. Y.: 2 oil paintings—John Custis, the 3rd, age 48, painted in 1725, and Frances Parke Custis, age 14 (58728, loan).
- LENMAN, Miss ISOBEL H., Washington, D. C. (through Mr. Anton Heitmüller): 35 specimens of antique iridescent glassware from Italy and Syria (59873, loan).
- LEÓN, Brother, Colegio de la Salle, Havana, Cuba: Specimen of a plant, *Gossypianthus*, from Cuba (59364).
- LEWIS, Mrs. SPENCER, Pekin, China (through Mr. John C. Ferguson, Newton, Mass.): 62 specimens of marine algae from China (59885).
- LEWIS, WALTER P., Phillipsburg, N. J.: Indian skull found by the donor in a grave on the old village site at Martins

- LEWIS, WALTER P.—Continued.
Creek, Northampton County, Pa., and 4 skulls and some bones from graves in the same locality (58802, 58902).
- LIEBES, H., & Co., San Francisco, Cal.: 8 specimens of mink skins, showing the method of cutting, sewing and forming furs for articles of wear (59313).
- LILLY, ELI, & Co., Indianapolis, Ind.: 28 boxes of empty gelatin capsules of various colors in 11 sizes, and 6 pieces of sheet gelatin (59061).
- LITTLE, LESTER F., Kanab, Utah: Grooved stone maul from Johnson Canyon, Utah, and a yucca-and-bark sandal and horn spatula from a cave in Kanab Canyon, Utah, collected by the donor (58739).
- LONG, The Misses, Washington, D. C.: Black satin "dickey," hand-made, period of 1830, French embroidered "dickey," period of 1830, and a quaint day-cap worn in Salem, Mass., during the early part of the 19th century (58645); deringer pistol and a flint-lock, muzzle-loading shotgun (58748); 3 pieces of furniture, 4 bronzes and 2 medallions, of the Georgian period (59186). Loan.
- LOOMIS, H. F., Lanham, Md.: Turtle, *Kinosternon pennsylvanicum*, from Lanham (58782); larvæ of 12 species of beetles from Mertensia, N. Y., and Jackson, Tenn. (59489).
- LOOMIS, Miss MARTHA L., Sherborn, Mass.: 32 specimens of plants from Massachusetts (58788, 58924, 59913).
- LOUISIANA PURCHASE EXPOSITION. (See under Philippine Commission.)
- LOUISVILLE VENEER MILLS, Louisville, Ky., and the GUM LUMBER MANUFACTURERS' ASSOCIATION, Memphis, Tenn.: Finished panel of quarter-sawn red gum veneer, figured wood, matched for design (59878).
- LOWER, Mrs. MARY NORTON, Washington, D. C. (through Mrs. R. G. Hoes): Dolls, wearing apparel and a fan, of the latter part of the 18th and the early part of the 19th century (59454, loan).
- LÜDERWALDT, HERMAN, Museu Paulista, São Paulo, Brazil: 50 specimens of ferns from Brazil (59474, purchase).
- LUNELL, Dr. J., Leeds, N. Dak.: 11 specimens of plants, *Chenopodium*, from North Dakota (59045, exchange).
- LYON, Dr. M. W., jr., Washington, D. C.: Bat, *Lasionycteris noctivagans*, from Great Falls, Md. (59667).
- MAAG, EDWARD, New York City: 24 samples of upholstery and drapery trimmings manufactured in America, and 2 photographs showing the method of weaving and dyeing trimmings (58980).
- MCATEE, W. L., Bureau of Biological Survey, Washington, D. C.: 98 specimens of plants from Virginia, Maryland, the District of Columbia and vicinity (58559, 58649, 58719, 58807, 59444); 4 crabs, *Uca pugnator*, from Revels Island, Va. (59221); 2 lots of crabs from Coconut Grove, Fla. (59389).
- MACBETH-EVANS GLASS CO., Pittsburgh, Pa.: Miscellaneous glass articles and photographs (58571); photograph—a general view of Macbeth-Evans glass works at Charleroi, Pa. (58791).
- MCCULLOCH, Miss IRENE, University of California, Berkeley, Cal.: Cotype of the protozoan *Crithidia leptocoridia*, from the box elder bug, *Leptocoris trivittatus*, from Lawrence, Kana. (59291).
- MCDONALD, A. W., Hot Wells, Tex.: Large fluorite crystal (58618).
- MCDONALD, D. F., U. S. Geological Survey, Washington, D. C.: Specimen of fossil wood from Panama (59864).
- MCDONALD, F. L. W. (See under Netherlands and Colonies, Central Commission of the, Panama-Pacific International Exposition.)
- MCDONALD, Mrs. MARSHALL, Alexandria, Va.: Percussion cap-lock pistol made by T. Ketland & Co. (59338, loan).
- McKEE, Mrs. J. R., New York City: Costume consisting of a brocade satin, silk-and-velvet gown, fan, white kid gloves, gilded-kid button boots and Brussels point lace handkerchief, worn by Mrs. McKee at the inaugural ball of her father, President Benjamin Harrison, March 4, 1889 (58821, loan).

- MACKIE, D. B.**, Washington, D. C.: Skull of tamarao, *Bubalus mindorensis* (58539, exchange).
- McKINNEY, J. R.**, Nacogdoches, Tex.: Hellgramite, *Corydalis cornuta* (58583).
- McKNIGHT, GEORGE J.**, Washington, D. C.: 4 specimens of gold ore from Clear Creek County, Colo. (59356).
- McLANE, Mrs. ALLAN**, Washington, D. C.: 122 ethnological objects, art objects, souvenirs, etc., from various parts of the world—additions to "The Allan McLane Collection" (59401, 59822, loan); collection of dolls and dolls' apparel (59473).
- McMAHON MUSEUM**, Quetta, Baluchistan, India: 25 skins and 24 skulls of mammals from Baluchistan (58775, exchange).
- McMULLIN, D. J.**, Pago Pago, Samoa: 10 specimens of ferns from American Samoa (58780).
- MACVICHIE, Capt. DUNCAN**, Salt Lake City, Utah (through Mr. Victor C. Heikes): A crystal and an ore specimen of scheelite from near Osceola Nev. (59131).
- MAHONEY, J.**, New Denver, British Columbia, Canada: Jumping mouse, *Zapus* (59054).
- MAHONEY, Mrs. JOHN**, Indian Head, Md.: 2 Indian baskets (59874, loan).
- MALAYA BOARD, INTERNATIONAL HEALTH COMMISSION** (through Dr. Samuel T. Darling, chairman, Kuala Lumpur, Federated Malay States): Young fish, *Barbus maculatus* (59479).
- MALLINSON, H. R., AND Co.**, New York City: 7 samples of Pussy Willow taffeta, "State flower design" (58952).
- MALNATT, Miss VIRGINIA**, Washington, D. C.: Specimen of a plant, *Pentstemon*, from Maryland (58545).
- MANCHESTER MUSEUM, UNIVERSITY OF MANCHESTER**, Manchester, England: Gorgonian, *Actinoptilum molle*, from the Cape of Good Hope (58643, exchange).
- MANCHESTER, JOHN G.**, New York City: 13 minerals from New York and New Jersey (59697, exchange).
- MANNING, J. F.**, Marble, Colo.: Crystals of twinned calcite and of pyrite in marble (58958).
- MANNING, L. T.**, Myrtle, Miss.: 4 moths, *Catocala* (58973).
- MANSFIELD, W. C.**, Washington, D. C.: 90 specimens, representing 15 species, of land and fresh-water shells from the coastal plain of Florida, Alabama, and Georgia (58615).
- MANTZ, CYRUS, jr.**, Washington, D. C.: Bronze medal commemorating the inauguration, March 4, 1909, of William Howard Taft, as President of the United States (59460).
- MARSH, Mrs. FREDERICK**, Washington, D. C.: Old Spanish lace scarf made in Salamanca, Spain (59812, loan).
- MARSHALL, ERNEST B.**, Laurel, Md.: Cooper's hawk, *Accipiter cooperi* (58953); skull of raccoon, *Procyon* (59094).
- MARSHALL, GEORGE**, U. S. National Museum: Skull of a "Boston bull," *Canis familiaris* (59262); skull of a gray fox (59575); young robin, *Planesticus migratorius*, from Washington, D. C. (59749).
- MARSHALL, JOHN E.**, Clifton, Va.: Grooved stone ax found near Clifton (59789).
- MARTIN, GEORGE C.**, Asbury Park, N. J.: 8 fossils and 3 concretions (58997).
- MARTIN, Miss JANET**, Worcester, Mass.: 44 ceramics, embroideries, etc. (59118).
- MARYLAND GEOLOGICAL SURVEY**, Baltimore, Md. (through Dr. L. W. Stephenson, Washington, D. C.): 18 Upper Cretaceous corals from Maryland, including types (59132, deposit).
- MASON, Mrs. ALPHONSO**, Philadelphia, Pa.: A baby's white dress with 2 gold armlets, and an Italian embroidered black net shawl (59630, loan).
- MASON, FRANK R.**, Philadelphia, Pa.: 21 beetles (58778, exchange).
- MASON, Mrs. SIDNEY**, Philadelphia, Pa. (through Mrs. Julian-James): A child's pink dimity dress and a pair of hand-made slippers (59747, loan).

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Boston, Mass.: 66 minerals and ores (59746, exchange).

MAXON, WILLIAM R., U. S. National Museum: 650 specimens of plants, *Sphagnum*, from New York and Maryland (58960, 59012); 50 specimens of *Sphagnum* from New York and Maryland, collected by Mr. E. L. Morris (58992); 4 specimens of violets from New York (59585).

MAXON, WILLIAM R., and T. H. KEARNEY, Bureau of Plant Industry, Washington, D. C.: 60 specimens of plants from Maryland (59744).

MAXON, WILLIAM R., and J. B. NORTON, Bureau of Plant Industry, Washington, D. C.: 35 specimens of plants from Maryland (58594).

MAXWELL, J. J., Washington, D. C.: Seahorse, *Hippocampus hudsonius*, from the Potomac River about 4 miles north of Colonial Beach (58909).

MAYER, Dr. A. G., Princeton, N. J.: 34 fossil corals from Tobago Island (59741).

MAYER, CASPER, Humboldt, Wis.: Eyed click beetle, *Alaus oculatus*, and small longhorned beetle, *Liopus variegatus* (58675).

MAYNARD, CHARLES W., Detroit, Mich.: Collection of Civil War relics (59852).

MEARNS, Lieut. Col. EDGAR A., U. S. Army (retired), U. S. National Museum: Rhinoceros-hide whip, used to keep order among the bearers in Col. Roosevelt's East African *safari* (58882); woman's beaded apron, from West Africa (58883, loan).

MEARNS, Miss LILLIAN H., Washington, D. C.: A land and a marine mollusk from Virginia (59212).

MEINZER, O. E., U. S. Geological Survey, Washington, D. C. (through Dr. T. Wayland Vaughan): 71 lots of lithologic specimens and fossils from the vicinity of Guantanamo, Cuba, collected in 1915 (59383).

MELBOURNE, VICTORIA, AUSTRALIA, NATIONAL MUSEUM: 10 lots of Tertiary bryozoans from Australia (59518).

MELLA, FRITZ, Santiago, Chile: 4 minerals from Chile (59623).

MERRIAM, Dr. C. HART, Washington, D. C.: Smoke-dried head of a Brazilian Indian, obtained in 1875 on the headwaters of the Tapajos River, by Mr. Ernest T. Morris (59457).

MERRILL, Dr. GEORGE P., U. S. National Museum: Specimen of fern, *Filix fragilis*, from Colorado (58776); 3 concretions of clay-iron-stone out of Hamilton "Bluestone," Kingston, N. Y. (58873); 20 specimens of serpentinous marbles from the head of Yule Creek, Gunnison County, Colo. (58875).

MERRILL, Mrs. GEORGE P., Washington, D. C.: Jet bracelet (58827, loan).

MERRILL, G. K., Rockland, Me.: 70 specimens of lichens and algae mainly from New England (58708, exchange).

METCALF, Dr. MAYNARD M., Oberlin, Ohio: 40 tunicates belonging to the genera *Pyrosoma*, *Salpa* and *Fritillaria* (59048); 4 specimens of *Salpa*, consisting of 3 specimens of *Cyclosalpa bakeri* from La Jolla, Cal., and 1 of *C. virgula*, from the Naples Zoological Station (59753).

MICHIGAN, UNIVERSITY OF, Ann Arbor, Mich.: 2 land crabs from Colombia and British Guiana, each the type of a new species (59393).

MILLER, GERRIT S., jr., U. S. National Museum: Weasel, *Mustela noveboracensis*, 2 rabbits, *Sylvilagus*, and a bat, *Nycteris borealis*, all from Virginia (58536, 58614, 58626, 58671).

MILLER, Miss MARY F., Washington, D. C.: 2 specimens of plants, *Antennaria*, from Virginia (59752).

MILLS, WILLIAM C., Ohio State University Museum, Columbus, Ohio: Plaster cast of effigy pipe, the Indian dog (59761).

MIMS, J. C. (See under Forest Products Co.)

MINNESOTA ACADEMY OF SCIENCES, Minneapolis, Minn.: 25 silver tetradrachms issued during the second and first centuries, B. C., by the Egyptian kings Ptolemy X and Ptolemy XIII (59032, exchange).

- MIRGUET, JEROME E., Rochester, N. Y.: 8 restorations of dinosaurs, modeled by Mr. C. W. Gilmore (59863, purchase).
- MISSOURI BOTANICAL GARDEN, St. Louis, Mo.: Photograph of the type specimen of a plant, *Senecio hypotrichus* (59347, exchange).
- MITTNER, Miss M. L., Pilkinton, Va.: Rhinoceros beetle, *Dynastes tityus* (59519).
- MIXTER, GEORGE. (See under Guirola, Rafael.)
- MOFFETT, Dr. LACY I., Southern Presbyterian Mission, Kiangyin, China: Reptiles, batrachians and an insect from China (58877); 2 alligator skins from China (58925, collected for the Museum).
- MOODIE, Miss MARION E., Calgary, Alberta, Canada: 300 specimens of plants from Alberta (59247, purchase).
- MOONEY, JAMES, jr., Washington, D. C.: Nest of flying squirrel, *Sciuropterus volans* (59685).
- MOORE, A. R., Merritt, Fla.: Cricket, *Stiaptor* sp. (58685).
- MOORE, CLARENCE B., Philadelphia, Pa.: Skeletal material from "The Indian Knoll," a site on Green River, Ohio County, Ky., from near Colvin Lake, Ballard County, Ky., and from Hales Point, Lauderdale County, Tenn., all collected by the donor (59526, 59733). (See under Academy of Natural Sciences.)
- MOORE, H. C., Alma, Mich.: Cast of a bird amulet from Marathon Township, Lapeer County, Mich. (59058).
- MOORE, J. E., Princess Anne, Md.: 96 stone implements typical of the Eastern Shore of Maryland near the peninsula between Big Monie and the Wicomico Rivers (59071, exchange).
- MOORE, Dr. RILEY D., U. S. National Museum: 105 specimens of walrus and mammoth ivory worked up by Eskimos for jewelry mountings, collected by Dr. Moore in Alaska (59936, loan).
- MOREIRA, Señor CARLOS, Rio de Janeiro, Brazil: 6 isopods collected in Petropolis, Brazil (59327).
- MORGAN, JAMES MORRIS, Washington, D. C.: 2 specimens of plants from the Solomon Islands (59205).
- MORRIS, FRANCIS J. A., Peterborough, Ontario, Canada: 38 specimens of ferns from Ontario (59007, 59838).
- MORRIS, Mrs. JOHN SPEED, Washington, D. C.: Child's dress made by Mrs. Thomas Jefferson Randolph (58915, loan).
- MORRISON, Miss FANNIE A. (See under Putnam, Mrs. Fannie Brown, Estate of.)
- MOSBY, Col. JOHN S., Washington, D. C.: Original printed copies of 2 general orders issued by Maj. Gen. J. E. B. Stuart, C. S. Army, dated March 12 and March 18, 1863, respectively (58977, loan).
- MOSCOW, RUSSIA, CABINET ICHTHYOLOGIQUE DE L'ACADEMIE D'AGRICULTURE DE MOSCOU: 2 specimens of gudgeon *Gobio ussuriensis*, and a specimen of loach, *Gobiobotia pappenheimi* (59580, exchange).
- MOSS ROSE MANUFACTURING CO., THE, Philadelphia, Pa. (through Mr. N. W. Doorly, New York City): 19 samples of cotton and cotton and silk mixed upholstery, tapestry, and drapery fabrics (59614).
- MOUZON, Miss HARRIET P., Dallas, Tex.: 2 grasshoppers and 2 specimens of Cactaceæ, from southern Brazil (58942).
- MOXLEY, GEORGE L., Los Angeles, Cal.: 18 specimens of plants from California (58783, 59343).
- MUNROE, Dr. CHARLES E., Washington, D. C.: Flashing tests for gunpowder (Nos. 1 to 8) (59787).
- MUNROE, Miss HELEN, Smithsonian Institution: 3 beaded bags and a silk fan with ivory sticks, used during the early part of the 19th century (58638, 59197). Loan.
- MUNSON, HENRY, Philadelphia, Pa.: Specimen of radiated titanite from Lambertville, N. J. (59207).
- MUSEO NACIONAL. (See under Buenos Aires, Argentina.)
- MUSEO NACIONAL. (See under San José, Costa Rica.)

- MUSEU PAULISTA. (See under São Paulo, Brazil.)
- MUSEUM OF COMPARATIVE ZOOLOGY. (See under Harvard University.)
- NASSAU STAMP Co., New York City: 1,036 20th century foreign postage stamps (59251, purchase).
- NASSE, Dr. EDMUND, Wellington, Mo.: Portion of fossil musk-ox skull and miscellaneous fragments of bones (59409).
- NATIONAL HANDLE Co., THE, Cleveland, Ohio: 5 specimens showing steps in the manufacture of a pitchfork handle (59786).
- NATIONAL MUSEUM. (See under Melbourne, Victoria, Australia.)
- NATIONAL SILK DYEING Co., Paterson, N. J.: 63 samples representing silk skein-dyeing and silk piece-dyeing and printing (58940).
- NATIONAL SOCIETY OF THE COLONIAL DAMES OF AMERICA, Washington, D. C.: 3 white embroidered silk and satin waistcoats and a pair of black silk trousers, which belonged to George Mason of Gunston Hall, author of the "Bill of Rights," lent to the Colonial Dames by his great-great-grandson, Dr. Emlyn Harrison Marsteller, jr., of Virginia and New York (59033); pair of shoe buckles which belonged to the Hon. John Barclay, mayor of Philadelphia in 1791, and were worn by him at the presidential receptions (59151); miscellaneous historical relics (59612, 59656, 59666, 59687, 59703); sword and scabbard carried during the War of the Revolution by Capt. Jonathan Lawrence, Continental Army, and a wedding dress and pair of slippers worn by Mary Lynch in 1740 (59730). Loan.
- NATIONAL SOCIETY OF THE DAUGHTERS OF THE AMERICAN REVOLUTION, Washington, D. C.: Set of doll's china and furniture, Japanese mirror, piece of lace and 2 spindles, and 3 artificial flowers made of feathers (59304, loan).
- NAVY DEPARTMENT: Manganese nodule recovered by the cable ship *Mackay-Bennett*, June 27, 1915, in about 900 fathoms of water, received through the Hydrographic Office (59003).
- NELSON, C. Z., Galesburg, Ill.: Living specimen of a cactus, *Opuntia*, from Florida (59105, exchange).
- NELSON, ENRIQUE M. (See under Argentina, Comision de la Exposicion Universal, 1915, San Francisco, Cal.)
- NEPHI PLASTER & MANUFACTURING Co., Salt Lake City, Utah: 120-pound block of rock gypsum and 12 2-pound samples of gypsum plasters (59856).
- NETHERLANDS AND COLONIES, CENTRAL COMMISSION OF THE, PANAMA-PACIFIC INTERNATIONAL EXPOSITION, 1915, San Francisco, Cal. (through Mr. F. L. W. MacDonald, acting commissioner of the Netherlands East Indies): 22 specimens of Javanese batik work on cotton and silk, made by prisoners in penal institutions of Java, and a series of 14 small samples from Djocjakarta, Java, illustrating the batik process of decorating cotton cloth (59191, purchase); 14 framed enlarged photographs (59673, purchase); specimens of tea, coffee, spices, resins, drugs, and miscellaneous agricultural products (59690).
- NEW ENGLAND STAMP Co., THE, Boston, Mass.: 85 20th century foreign postage stamps (59215, purchase).
- NEWMAN, A. D., Harrisonville, Mo.: Blind amphipod crustacean, *Eucrangonyx mucronatus*, from a well at Harrisonville, on the farm of Mr. Newman (58756).
- NEWMAN, S. M., jr., Sterling, Va.: Nest of orchard oriole, *Icterus spurius*, from Virginia (58695).
- NEW MEXICO COLLEGE OF AGRICULTURE AND MECHANIC ARTS, State College, N. Mex.: Type specimen of a plant, *Boerhaavia organensis* (59129, exchange).
- NEW YORK BOTANICAL GARDEN, Bronx Park, New York City: 25 specimens of fungi from Florida (58668); 20 specimens of mosses from Florida and Bermuda (58667); 467 specimens of plants from the West Indies (58832, 59256, 59341, 59795); 243 specimens of hepatics, chiefly from the United States and the West Indies (59052); 8 living specimens of Cactaceae (59146); 63 living specimens of Cactaceae collected in

NEW YORK BOTANICAL GARDEN—Contd.

South Carolina and Florida by Dr. J. K. Small (59512, 59770); 6 photographs of plants (59808); 5 living specimens of a plant, *Rhodiola rosea*, collected by Mr. Percy Wilson in Pennsylvania (59905). Exchange.

NEW YORK CITY, CITIZEN'S COMMITTEE (through Dr. George F. Kunz, chairman, executive committee): Badge used at the celebration of the 250th anniversary of the establishment of the present form of city government in New York, and the adoption for the first time in the history of New York of an official city flag (58651).

NEW YORK STATE MUSEUM, Albany, N. Y. (through Dr. H. D. House): 113 specimens of plants (58998); 124 specimens of plants from New York (59061, exchange).

NEW ZEALAND, COMMISSION OF THE DOMINION OF, PANAMA-PACIFIC INTERNATIONAL EXPOSITION, 1915, San Francisco, Cal. (through Mr. E. Clifton, commissioner): 27 small samples of raw wool (59662).

NEY, ELISABET, MUSEUM. (See under Dibrell, Mrs. Joseph B.)

NIAGARA SILK MILLS, North Tonawanda, N. Y.: 4 samples of glove silk fabrics (Tricot and Milanese) in plain and Waldorf stripes (59533).

NICHOLAS, DR. FRANCIS C., New York City: Fragment weighing 52 grams and shavings weighing 15 grams, of the Toluca, Mexico, meteorite (59203).

NICHOLSON FILE CO., Providence, R. I.: 11 specimens showing the different stages in the manufacture of a file (58906).

NICKENS, DAVID E., Washington, D. C.: Spotted salamander with eggs, from Stafford County, Va. (59627).

NIELSEN, NIEL. (See under Australian Commission, Panama-Pacific International Exposition.)

NISS, MRS. H. G., Washington, D. C.: English china drinking mug made during the early part of the 18th century (59116, loan).

NORTH CAROLINA GRANITE CORPORATION, THE, Mt. Airy, N. C.: Slab of granite, 34 by 34 by 3 inches (59915).

NORTH CAROLINA STATE MUSEUM, Raleigh, N. C. (through Dr. Joseph Hyde Pratt, State geologist, and Dr. L. W. Stephenson, U. S. Geological Survey, Washington, D. C.): Collection of Upper Cretaceous fossils from Snow Hill, N. C., comprising the types described by Prof. T. A. Conrad (59038, exchange).

NORTON, J. B., Bureau of Plant Industry, Washington, D. C.: 511 specimens of plants from the eastern part of the United States (58568, 58704, 58786, 58790, 59164, 59453, 59528, 59644). (See under Maxon, William R.)

NORTON, Prof. J. B. S., College Park, Md.: 48 specimens of plants from the District of Columbia and vicinity (58869, 58898).

NORTON & Co., Four Mile Run, Va.: Skull of a Florida manatee (59011).

NOVELTY TURNING CO., Norway, Me.: 16 specimens showing the stages in the manufacture of an electric sadiron handle, including a complete iron with connections (59815).

NOYES, I. G., Somerville, Mass.: Living specimen of a plant, *Talinaria palmeri*, from Mexico (58966).

NUILA, Dr. J. M., San Pedro Sula, Honduras; Central America: Little earthenware death's head and the handle of an earthen jar, found in the bank of the Rio Ulua, Honduras (58905).

OBERLIN COLLEGE, DEPARTMENT OF BOTANY, Oberlin, Ohio (through Prof. F. O. Grover): 77 specimens of sedges, *Carex*, from Ohio (58720, exchange).

O'FARRELL, MRS. BRIDGET E., Washington, D. C.: Chair used by Gen. Robert E. Lee in the McLean house at Appomattox Court House, Va., April 9, 1865, when writing the note accepting the terms proposed by Gen. U. S. Grant for the surrender of the Army of Northern Virginia (59140).

OLIVER, W. R., Auckland, New Zealand: About 500 specimens, 66 species, of mollusks from the Kermadec Islands and Australia (59092).

O'NEILL, J., Ritta, Fla.: Fragment of a meteoric stone weighing 1,050 grams, found in Lake Okechobee, Fla. (59628, purchase).

- ORCUTT, CHARLES R., San Diego, Cal.: About 440 land, fresh-water and marine shells from various parts of the world (59034, 59330, 59523, 59643, 59762); Tertiary fossils from San Diego and San Quentin, Lower California (59279, exchange).
- OREGON AGRICULTURAL COLLEGE, Corvallis, Oreg. (through Prof. H. S. Hammond): 64 specimens of plants from Oregon (59195, 59468, 59708).
- OREGON COMMISSION, PANAMA-PACIFIC INTERNATIONAL EXPOSITION, 1915, San Francisco, Cal. (through Mr. Oscar E. Freytag, chief of agriculture): Specimen of teasel plant as grown in the field and a sheaf of flax in the seed (59634).
- ORIENTAL SILK PRINTING Co., Haledon, N. J.: 5 samples of novelty silks printed with "Rose Celestielle" and Russian designs (59532).
- ORINOKA MILLS, THE, Philadelphia, Pa.: 18 specimens of silk, cotton, wool and mixed tapestries, upholstery and drapery fabrics (59029); 4 samples of plain and brocaded upholstery and drapery fabrics, received through Mr. N. W. Doorly (59942).
- OSBORNE, Rev. A. V. E., Sheik Othman, Arabia: Mohammedan rosary of olive wood, carved, and certificate of a Mohammedan pilgrim to Mecca (59101, purchase).
- O'SULLIVAN, LAWRENCE, Washington, D. C.: Irish half-penny issued in 1822 (59676).
- OTTOLENGUI, Dr. R., New York City: 4 photographic plates of typical specimens of the lepidopterous genus *Antographa* (59487).
- OUGHTON, GEORGE. (See under Australian Commission, Panama-Pacific International Exposition.)
- OVER, Prof. W. H., University of South Dakota, Vermillion, S. Dak.: Fossil crabs, representing the types of 3 new species, described by Miss M. J. Rathbun (59831). (See under South Dakota, University of.)
- OX FIBRE BRUSH Co., Frederick, Md.: 57 specimens showing stages in the manufacture of fibre brushes, including crude fibres and finished brushes (59816).
- OYSTER, D. WILLIAM, Washington, D. C.: Moro barong with carved ivory and silver handle, and a Moro kris with carved ivory and gold handle (58727, purchase).
- PACHECO H., M., Guatemala City. Guatemala: Skin of a quetzal, *Pharomachrus mocinno*, from Guatemala (59620).
- PACIFIC TANK & PIPE Co., San Francisco, Cal.: Model of a cyanide leaching plant (59576).
- PALERMO, ANTONY, Washington, D. C.: Roman bronze coin issued during the reign of Emperor Hadrian, 117-138 A. D. (59524).
- PALLISTER, Prof. H. D., State School of Mines, Fort Bliss, Tex.: A solpugid, one of the jointed spiders (58881).
- PALMER, WILLIAM, U. S. National Museum: 3 small mounted mammals (58537); specimen of lichen, *Cladonia cristatella*, from Plummers Island, Md. (59088); 10 specimens, 2 species, of marine mollusks collected in Chesapeake Bay near Chesapeake Beach, Md. (59477); young king rail, *Rallus elegans*, from Washington, D. C., and 2 nests and 5 eggs of a barn swallow, *Hirundo erythrogaster*, from Maryland (59748).
- PANAMA, GOVERNMENT OF, Panama: 82 specimens of economic woods collected in the Republic of Panama by Prof. H. Pittier for the Panama National Exposition of 1915 (58894).
- PANAMA CANAL ZONE, BIOLOGICAL SURVEY OF. (See under Smithsonian Institution.)
- PANAMA-PACIFIC INTERNATIONAL EXPOSITION, 1915, San Francisco, Cal. (through Mr. O. H. Fernbach, secretary of the International Award System): 2 diplomas conferred, respectively, upon the U. S. National Museum and the department of biology of the Museum, by the International Jury of Awards of the Exposition (59791).
- PARISH, S. B., San Bernardino, Cal.: 25 specimens and a photograph of plants

PARISH, S. B.—Continued.

from California and Nevada (58541, 59022, 59637, 59661, 59794).

PARKER, Dr. A. C., Altmar, N. Y.: 2 beetles (58823).

PARKS, Dr. W. F., St. Louis, Mo. (through Mr. D. I. Bushnell, jr.): Unfinished pipe found in Jackson County, Mo. (59861).

PARSONS, ARTHUR J., Estate of (through Hon. Herbert Putnam, executor, Washington, D. C.): 2 oil paintings, a landscape by Peter de Wint and a landscape by John Constable (59349, loan).

PARTELLO, Col. J. M. T., U. S. Army, Inglewood, Cal.: A moth (58876).

PATTERSON, Mrs. JAMES, Washington, D. C.: 2 pairs of epaulets, a chapeau, a sword knot, 2 pieces of gold braid and parts of epaulets, worn by Chief Engineer George R. Johnson, U. S. Navy (59655).

PATTISON, Capt. H. H., U. S. Army, and W. D. PATTISON, Winamac, Ind.: Part of a skeleton of a mastodon, from the Pattison farm, about 15 miles northwest of Winamac (58605).

PAULING, FREDERIC, New York City: 2 aquatints and a steel engraving (59315).

PEABODY MUSEUM OF NATURAL HISTORY. (See under Yale University.)

PEACOCK, Miss BESS REED, Roswell, N. Mex.: 15 specimens of plants from New Mexico (59087).

PECK, M. E., Salem, Oreg.: Worms, crustaceans, mollusks, amphibians, and a lizard (59584).

PELOT, Mrs. MARGARET E. M., Chevy Chase, Md.: Sample of early English machine-made lace net (59328).

PERHAM, W. L., Washington, D. C.: Nearly complete skeleton of a whistling swan, *Olor columbianus*, from Maryland (59750).

PERUVIAN EXPEDITION OF 1914, 1915 (under the auspices of Yale University and the National Geographic Society, Dr. Hiram Bingham, director): 2,000 specimens of plants, chiefly from Peru, received through Mr. O. F. Cook, Bureau of Plant Industry (58855).

PERUVIAN GOVERNMENT: Collection of fishes obtained in Peru in 1907-1908 by Dr. Robert E. Coker when engaged in fishery investigations for the Peruvian government, and reported on by Dr. B. W. Evermann and Mr. Lewis Radcliffe (59892).

PETER, WALTER G., Georgetown, D. C.: Objects of artistic and domestic interest formerly belonging to Gen. and Mrs. Washington at Mount Vernon, including china and glassware, furniture, pictures, kitchen utensils and miscellaneous articles; 20 letters owned by Mrs. Washington and a scrap book of documents relating to the settlement of her estate (59939, loan).

PETEREIT, ALBERT H., New York City: Specimen of euxenite and 1 of ampangabeite, from Madagascar (59030, purchase).

PETERSON, W. M. (See under Interior, Department of.)

PEZET, F. A., Washington, D. C.: Oil painting representing the transit of St. Joseph, attributed to Murillo or to Meneses Osorio, a disciple of Murillo (59678, loan).

PHELPS, DODGE & Co., New York City: Stope from the "Copper Queen Mine," Bisbee, Ariz. (59577).

PHILIP, J. VAN NESS, Claverack, N. Y.: Oil portrait of Maj. Gen. John P. Van Ness, by Gilbert Stuart (59182, loan).

PHILIPPINE COMMISSION, LOUISIANA PURCHASE EXPOSITION, St. Louis, Mo.: Fish nets and traps, bird traps, baskets, a hammock, and pottery and gourd lamps (58718).

PHILIPPINE ISLANDS, GOVERNMENT OF THE, Manila, P. I.:

Specimens illustrating the work of the Philippine schools, consisting principally of basketry and textiles, collected by the Bureau of Education, Manila (59960, purchase).

Bureau of Science: 1,200 specimens of plants chiefly from Amboina (58584, exchange); 1,051 specimens of plants from Western Australia (59771, exchange); 16 skins and skulls of rats

PHILIPPINE ISLANDS, GOVERNMENT OF THE—Continued.

from Manila (59010); 100 specimens of plants from the Philippine Islands (59415, exchange).

Philippine Board, Panama-Pacific International Exposition, 1915 (San Francisco, Cal.): 110 6-foot boards and 100 hand samples of Philippine commercial woods (59593, purchase); an educational exhibit entitled "Fibers from the growing plants to the finished products"—received through Mr. Frank L. Crone, director of education for the Philippine Islands (59683).

PHILLIPS, Dr. W. A., Evanston, Ill.: 3 deer-antler hammers used by the ancient flint quarrymen of the Mill Creek district, southern Illinois (58955).

PILSBRY, Dr. H. A., Academy of Natural Sciences, Philadelphia, Pa.: 8 mollusks, paratypes of *Oreohelix yavapai* var. *angelica*, collected in the Grand Canyon, near base of Crossbed sandstone, Bright Angel Trail (59178).

PIPER, Prof. C. V., Bureau of Plant Industry, Washington, D. C.: 5 specimens of plants from Virginia (59645).

PIPPEN, A. L., Water Valley, Ala.: 8 mollusks, *Glandina*, from Choctaw County, Ala. (58616).

PIRTLE, Dr. G. W., Carlisle, Ind.: Larvæ and pupæ of parasites of *Stagnomantis carolina* (58880).

PITTIER, Prof. H., Bureau of Plant Industry, Washington, D. C.: 510 specimens of plants, 2 bats, a snake, and a sample of ipecac roots, *Euragoga ipecacuanha*, from Panama (58566, 58725, 58982); 9 specimens of plants from Colombia, South America (59114); fungus, *Mitremyces*, from the District of Columbia (59554); 155 specimens of plants from Australia (59911).

POGUE, Dr. JOSEPH E., Evanston, Ill.: Collection of the associated rocks, with thin sections, from the emerald mines at Muzo, Colombia, South America (59404, collected for the Museum). (See under Codazzi, Ricardo Lleras.)

POMONA COLLEGE, Claremont, Cal.: 42 crustaceans from California, received through Dr. William A. Hilton (59722); 134 specimens of plants from Nicaragua,

POMONA COLLEGE—Continued.

received through Prof. D. L. Crawford (59809).

POOLE, ARTHUR J., U. S. National Museum: 5 white-footed mice, *Peromyscus*, from West Virginia (58672); specimen of *P. leucopus noveboracensis*, from New Jersey (58766).

POOLE, WILLIS, Cedar Grove, Md.: Snake, *Coluber obsoletus*, from Maryland (58769.)

PORTER, Mrs. HENRY KIRK, Washington, D. C.: 41 bonnets of the 19th century (59759).

PORTER, JOHN O., Washington, D. C.: 2 restorations of dinosaurs, modeled by Mr. C. W. Gilmore (59862, purchase).

PORTER, RAY O., Kansas City, Kans.: 2 sea urchins, *Heterocentrotus trigonarius*, and 4 starfishes, *Archaster typicus*, from Camote Islands, near Cebu, a sponge, "Venus flower basket," *Euplectella speciosa*, from Talisay, Cebu Islands, and 5 sea horses, *Hippocampus kuda*, from the Philippines (59867).

POST OFFICE DEPARTMENT: 10 sets of specimen stamps, etc., 9 of which are in triplicate and 1 in duplicate (approximately 1,533 specimens), and 32 specimen stamps of the Republic of Salvador, received from the International Bureau of the Universal Postal Union, Berne, Switzerland (58600, 58844, 58901, 59107, 59227, 59397, 59639, 59729, 59869); 26 United States postage stamps, perforated 10, in triplicate (58721); 5 specimens each of the transitory issue of postage stamps of 1, 2, 3, 4, 5, and 10 centavos, received from the Director General of Posts, Mexico (58967); 2 specimens of a stamp issued for postage and war tax purposes by the Post Office Department, Ottawa, Canada (59230); receipt for postage to be paid in specie at the Boston Post Office, bearing date of July 1, 1849 (59231); 3 No. 5 2¢-stamped envelopes bearing the discarded stamp of 1915 (59419); 156 United States postage stamps, current issues (59541).

POZ, WILLIAM M., New York City: Specimen of pure dye silk dress goods, "silk-skin" (59613).

PRATT, Dr. JOSEPH HYDE. (See under North Carolina State Museum.)

- PROFFITT, Mrs. ALICE D., Saguache, Colo.: 10 Lepidoptera (59018).
- PROGRESSIVE SILK FINISHING Co., Hoboken, N. J.: 13 samples of various patterns of moiré silks (59691).
- PURCELL, JAMES R., New London, Va.: Snake, *Lampropeltis getulus*, from Virginia (58816).
- PURDUE UNIVERSITY, AGRICULTURAL EXPERIMENT STATION, Lafayette, Ind. (through Dr. J. C. Arthur): Specimen of a plant, *Hydrocotyle* (58595).
- PURDY, J. W., Washington, D. C.: Photographic copy of a letter of pardon signed by Abraham Lincoln, October 4, 1864 (58818, loan).
- PUTNAM, Mrs. FANNIE BROWN, Estate of (through Miss Fannie A. Morrison, executrix, Nashua, N. H.): 23 samples of human hair work made between 1870-1880 by Mrs. Putnam (59534).
- PUTNAM, Hon. HERBERT. (See under Parsons, Arthur J., Estate of.)
- PYNE, HENRY, Lowell, Ariz.: 2 cocoons of a moth, *Agapema anona* (58750).
- QUAKE, J. H., Kalamazoo, Mich.: 7 fresh-water mollusks (58680).
- QUAKER LACE Co., INC., Philadelphia, Pa.: 16 samples of machine-made window lace, made on the Nottingham lace curtain and levers go-through machines (59935).
- QUEENSLAND MUSEUM, Brisbane, Queensland, Australia: 87 species of Hymenoptera (59456, exchange).
- QUINLAN, J. C. (through Mrs. Eleanor F. Quinlan, Yonkers, N. Y.): Map of England and Wales, wrought in sewing by Mary Iveson in the 13th year of her age, A. D. 1788 (58764, loan).
- QUINTER, GEORGE E., Washington, D. C.: 100 muscoid Diptera from Paonia, Colo. (58936).
- RAMSDEN, CHARLES T., Guantanamo, Cuba: Fresh-water shrimp, *Macrobracium olfersii*, and 2 bats, *Erophylla sezekorni* and *Eumops glaucinus*, from Cuba (58579, 59253).
- RANDOLPH, WILSON CARY NICHOLAS, jr., Lynchburg, Va.: Pair of riding boots worn by Thomas Jefferson, received from his great-great-grandson (58715, loan).
- RANSOM, Miss IRENE, Estate of (through Mr. A. W. Barber, Cleveland, Ohio, and Mrs. Nellie G. Cole and Mrs. Lillian G. Tillotson, Painesville, Ohio, executors): Oil portrait of Salmon P. Chase, by Miss Caroline L. Ormes Ransom (59458).
- RANTOUL, Hon. ROBERT S., Salem, Mass. (through Mrs. George L. Andrews, Washington, D. C.): Light gray stiff hat of the style worn in 1877 (59083).
- RAPP, F. M., Spokane, Wash.: 3 raffia mats collected by the donor in Angola, Portuguese West Africa (59062).
- RATHBUN, Miss MARY J., U. S. National Museum: Snake and a lizard, from Alexandria County, Va. (58864). (See under Kite, Miss Rebecca.)
- RATHBUN, Dr. RICHARD, U. S. National Museum: Pair of Tower pistols (59166).
- RAVENEL, HENRY, Washington, D. C.: Small white pearl taken from a common little-neck clam (58888).
- READ, A. C., Santa Barbara, Isle of Pines, Cuba: Red-tailed hawk, *Buteo borealis* subspecies, from Isle of Pines (58637).
- READ, A. D., Senorito, N. Mex.: 28 specimens of plants from New Mexico (59243).
- REED, Dr. CARLOS S., Director del Museo Educacional de Mendoza, Mendoza, Argentina: Natural history specimens from Argentina, including mammals, birds, reptiles, insects and living plants, and a postage stamp (58886, exchange).
- REED, HOWARD S.: 83 bird skins from Honduras (59224, loan).
- REHDER, KARL, Granada, Spain: 4 skins and skulls of a Spanish ibex, *Capra hispanica* (58707, purchase); skin and skull of a Spanish ibex, *C. hispanica* (59261).
- REYNOLDS, BRONTE A., Bureau of Entomology, Washington, D. C.: 3 photographs of Bannock Indians (58820); 129 archeological specimens mainly from the Great and Little Falls, D. C., and from Red Banks and Bennings, D. C. (59565); British military uniform button of the period of the Revolution, and a United States Naval belt plate of the period of the Civil War (59605).

- REYNOLDS, Miss E., Washington, D. C.: Uniform coat worn by Maj. Gen. John F. Reynolds, U. S. Volunteers, in 1841, when a cadet at the U. S. Military Academy at West Point, and a pair of epaulets worn by him in 1855, when Captain, 3d U. S. Artillery (59726).
- REYNOLDS, ELMER W., Vienna, Va.: 2 dragonflies (58694).
- REYNOLDS, GEN. JOHN FULTON, FORTRESS No. 1, NATIONAL DAUGHTERS OF THE GRAND ARMY OF THE REPUBLIC, Buffalo, N. Y. (through Miss Agnes O'Hern, commander): Membership pin of the Society (59940).
- RICE, ARTHUR P., Merida, Yucatan: 7 photographs of Isthmian Indians and 2 pottery bird-whistles of the ancient Maya Indians (59466); ancient Maya pottery from Yucatan, consisting of 17 specimens and fragments (59591).
- RICH, E. L., Hermon, N. Y.: Specimen of a fern, *Polypodium*, from New York (58817, exchange).
- RICHARDSON, Mrs. CHARLES W., Washington, D. C.: Small gold locket containing a lock of the hair of Andrew Jackson (59082); piece of silk brocaded in gold and trimmed with lace and ribbon, parts of the material used in making the dress worn by Mrs. Theodore Roosevelt at the inaugural ball of President Roosevelt in 1905 (59264). Loan.
- RICHEY, Mrs. STEPHEN O., Washington, D. C.: Piece of point d'Argentan lace from a collar that belonged to the Empress Eugenie, purchased in Paris shortly after the Franco-Prussian War by the late Miss Ellen C. deQ. Woodbury and inherited by her niece, Mrs. Minna Blair Richey, the donor (59057).
- RIDEING, B. P., New York City: 7 samples of novelty coatings and pile fabrics (59285).
- RIDGWAY, ROBERT, U. S. National Museum: Screech owl, *Otus asio*, from Illinois (59099).
- RIGHTMIRE, HARL, Plainview, Tex.: 2 meteoric stones from near Plainview (59363, purchase).
- RINCONES, Dr. R. GONZALES, Caracas, Venezuela: About 275 insects from Venezuela (59498, exchange).
- RITCHIE, A. H., Hope, Kingston, Jamaica: About 150 parasitic Hymenoptera (58753).
- ROBERTSON, E. W., Bel Alton, Md.: Barn owl, *Tyto pratincola*, from Maryland (59461).
- ROBERTSON, L. P., Petersburg, Va.: Partial albino field sparrow, *Spizella pusilla*, from Virginia (59154).
- ROBINSON, Col. WIRT, U. S. Army, West Point, N. Y.: 27 beetles (59486, 59497).
- ROCKEY, H. F., Tylersville, Pa.: Small stone metate, polished stone celt, water-worn pebble, and an arrowpoint, from Porto Rico (59430).
- ROEDER, C. H., Silver Spring, Md.: Photograph of Thaddeus Stevens (58987).
- ROFKAR, W. F., Port Clinton, Ohio: 10 bats, consisting of a specimen each of *Myotis* and *Nycteris* and 8 specimens of *Pipistrellus* (59478).
- ROHWER, S. A., Bureau of Entomology, Washington, D. C.: 196 sawflies from Formosa, representing 43 species, 26 being paratypes of new species (58935).
- ROIG, Dr. MARIO SÁNCHEZ, Havana, Cuba: 2 crabs, *Pinnotheres ostrearius*, and an imperfect specimen of a new shrimp, *Palæmon* species, from Cuba (59373).
- ROLLMAN, LEONARD, Hyattsville, Md.: Dragonfly from Hyattsville (58691).
- ROSEN, H. R., U. S. National Museum: 14 specimens of fungi from the District of Columbia and vicinity (59707, 59796).
- ROSENBERG, E., Copenhagen, Denmark (through Dr. A. G. Bøving, Washington, D. C.): Larvæ, pupæ or adults of 15 species of Danish long-horn beetles, *Cerambycidae* (58939).
- ROSENTHAL, W. E., New York City (through Mr. N. W. Doorly): 17 samples of upholstery and drapery fabrics, manufactured by J. W. Barber & Co. and the Bennett & Aspden Co. (59714).
- ROST, MILES E., Washington, D. C.: Pen-and-ink drawing in colors, "Chief Hollow Horn Bear," Sioux (59070, loan).
- ROWLETT, Mrs. S. C., Crawford, W. Va.: Specimen of a plant, *Conopholis americana*, from West Virginia (59736).

- ROYAL BOTANIC GARDENS. (See under Kew, England.)
- RUBEY, HON. THOMAS L. (See under Full, Webster.)
- RÜCKNOW, LEO, Mancos, Colo. (through Dr. J. Walter Fewkes): Grooved stone ax found by the donor at Aztec Spring, near Cortez, Colo. (59374).
- RUPERT, J. A., Oak Grove, Oreg.: 10 specimens of siderite from Washington (59225).
- RUSSEL, MAJ. EDGAR, U. S. Army, and Mrs. RUSSEL, Washington, D. C.: Weapons and armor, consisting of 14 specimens, 11 hats, 2 food-bowl covers and a carved wooden figure (Igorot), collected by the donors in the Philippine Islands between 1898-1901 (58548, 58644).
- RUSSELL, B. R., San Saba, Tex.: 4 living specimens of Cactaceae from Texas and Missouri, and 3 packets of cactus seeds from Texas (59239, exchange).
- RUSSELL, GEORGE H., Washington, D. C.: Ethiopic manuscript (59420, loan).
- RUST, HENRY J., Coeur d'Alene, Idaho: 80 specimens of plants from Idaho (59353).
- RUTH, JOHN A., Clifton, N. J.: 13 specimens of plants from New Jersey (59176).
- RYDING, H. W., Smolan, Kans.: 16 specimens of plants from Kansas (58787).
- SAFFORD, W. E., Bureau of Plant Industry, Washington, D. C.: Illuminated manuscript—Edict of Pope Paul III (59610, loan).
- SAMUELS, J. A., Botanical Garden, Bronx Park, New York City: 6 mineral specimens from Tyrol (59382, purchase).
- SAN JOSÉ, COSTA RICA, MUSEO NACIONAL: 3 living specimens of a cactus, *Epiphyllum*, from Costa Rica (58965).
- SANZIN, RENATO, Mendoza, Argentina: 5 specimens of plants, 10 reptiles, and a small collection of insects, from Argentina (58923).
- SÃO PAULO, BRAZIL, MUSEU PAULISTA: 21 specimens of Cactaceae from Brazil (58964).
- SCHALLER, Dr. W. T., U. S. Geological Survey, Washington, D. C.: Collection illustrating the gem-bearing pegmatites of San Diego County, Cal. (58896, collected for the Museum).
- SCHAUS, WILLIAM, Puerto Barrios, Guatemala: 4 boxes of insects, comprising all groups exclusive of Lepidoptera, and 3 boxes of Microlepidoptera (59481).
- SCHMID, EDWARD S., Washington, D. C.: Gray-cheeked thrush, *Hylocichla aliciae*, and a crimson parrot, *Platyercus elegans*, with trunk skeleton of the latter (58954); double yellow-headed parrot, *Amazona oratrix* (59016); marmoset, *Edipomidas aedipus* (59424); 2 specimens of a screech owl, *Otus asio*, from Washington, D. C. (59742).
- SCHMITT, WALDO, U. S. National Museum: 2 specimens, representing 2 species, of fossil gastropod mollusks from Newport, Oreg. (58801).
- SCHOFIELD, Ven. THOMAS ALVORD, Denver, Colo.: Specimen of tungsten ore from Colorado (59916).
- SCHOLL, ERNEST E., State Department of Agriculture, Austin, Tex.: 37 land shells, *Rumina decollata*, from a colony introduced at San Antonio, Tex. (59402).
- SCHROEDL, GUIDO, Baltimore, Md.: 17 archeological specimens from the Old World and from America (59600, loan).
- SCHWALENBERG, L. G., Salt Lake City, Utah (through Mr. Victor C. Heikee): Specimen of scheelite from Bonita, near Osceola, Nev. (59124).
- SCIDMORE, Miss ELIZA R., Washington, D. C.: 19 specimens of Chinese porcelain, bronze and brass (59111, loan).
- SCOTT STAMP & COIN CO., THE, New York City: 115 20th century foreign postage stamps (59198, purchase).
- SEAL, WILLIAM P., Delair, N. J.: Fishes, mammals, reptiles, a bird, a leech and an insect (58679); 4 specimens of a jumping-mouse, *Zapus*, and a shrew, *Blarina*, from New Jersey (58825); 5 specimens of plants, *Cabomba* (58831).

- SEAMAN, Mrs. WILLIAM H., Washington, D. C.: The herbarium of the late Dr. William H. Seaman, consisting of 2,645 mounted specimens of plants (58944).
- SEIP, Dr. M. S., Easton, Pa.: 2 photographs of the portraits of John Penn and William Williams (59109); photograph of a portrait of Caesar Augustus Rodney and a photograph showing 9 portraits of George Taylor, a view of his house and his monument at Easton, Pa. (59412).
- SELLARDS, Dr. E. H., State geologist, Tallahassee, Fla. (through Dr. T. Wayland Vaughan): About 35 specimens, representing 6 species, of Miocene fossils from Knox Still Landing, New River, Fla. (59171); 3 casts of extinct reptiles from Florida (59549).
- SEVILLE, Miss M. W., Smithsonian Institution: Poster for "Milka" (59421).
- SHANNON, R. C., Bureau of Entomology, Washington, D. C.: 2 specimens of a wood rat, *Neotoma*, from Virginia (59064); specimen of fungus, *Pycnopus*, from the District of Columbia (59370).
- SHARWOOD, W. J., Lead, S. Dak.: Specimens of greenockite from Black Hills, S. Dak. (58797); 15 samples of rocks and ores from the Homestake Mine, Lead (58957).
- SHEEHY, EDWARD T., Tubac, Ariz.: Specimen of wulfenite from the Tyndall Mining District, Ariz. (59321).
- SHEIP, HENRY H., MANUFACTURING CO., Philadelphia, Pa.: Series of specimens showing the steps in the manufacture of cigar boxes from Spanish cedar (59813).
- SHELDON, G. L., Ely, Nev.: Specimens of a chloritic mineral and tungsten minerals, from Nevada (59649).
- SHELLMAN, Miss MARY B., Westminster, Md.: Apron of barege, the design of which represents the Confederate flag, worn by a Baltimore belle in 1861 as an evidence of her sympathy for the Southern cause (58884).
- SHEPHERD, Col. C. L., Kensington, London, England: 21 fossil otoliths from the Tertiary rocks of Europe (58747, exchange).
- SHERIDAN, Mrs. PHILIP H., Washington, D. C.: Dress worn by Mrs. Sheridan when Gen. Sheridan came to Washington in command of the Army in 1883 (59081, loan).
- SHERMAN, Hon. P. TECUMSEH, New York City: Memorials of Gen. William Tecumseh Sherman, presented by his son. (With the exception of three objects, formerly a loan.) (59388).
- SHIELDS, Dr. EDGAR T., Narberth, Pa.: Giant salamander from Ya River, Yachow, China (58592).
- SHIPPY, N. D., Ogilby, Cal.: Specimen of hübnerite and 1 of cinnabar, from near Round Mountain, Nev. (58961); specimen of dumortierite, and 9 crystals of limonite pseudomorph after pyrite, with samples of the rock in which they occur (59693).
- SHUFELDT, Dr. R. W., U. S. Army (retired), Washington, D. C.: Skeleton of a southern grackle, *Gracula religiosa* (58556); 7 bats, consisting of 2 specimens of *Eptesicus fuscus* from Takoma Park, D. C., and 5 of *Myotis* from Fort Wingate, N. Mex. (58564); 5 skeletons of tree-ducks from Texas, including a black-bellied tree-duck, *Dendrocygna autumnalis*, and a fulvous tree-duck, *D. bicolor* (58576); skin of a monkey, *Ateles ater*, from Brazil (58657); chipmunk, *Eutamias*, and a tree-frog, *Hyla arenicolor*, from New Mexico (59063, 59720); skeleton of saw-whet owl, *Cryptoglaux a. acadica*, from Washington, D. C. (59250).
- SIFTON, Dr. H. A., Milwaukee, Wis.: 3 grizzly bear skulls from Stikene River, British Columbia (59568).
- SILBERLING, A. C., Barber, Mont.: 45 Fort Union mammals from the vicinity of Melville, Mont. (58603, purchase).
- SILVA, Dr. ANTONIO CARLOS SIMOENS DA, Rio de Janeiro, Brazil: Small piece of jade, mounted in silver and polished on one face, from the State of Bahia, Brazil (59208).
- SISK, CARL M., Clay City, Ind.: Earthenware effigy jar found in 1862 in a mound in Missouri (59376).

SKEELS, HOMER C., U. S. Department of Agriculture, Washington, D. C.: 15 specimens of orchids from the District of Columbia and vicinity (59360).

SLATER, MRS. H. D., El Paso, Tex.: 14 specimens of plants from Texas and New Mexico (58866, 58808).

SLEVIN, JOSEPH R., California Academy of Sciences, San Francisco, Cal.: 5 reptiles from California (59602).

SLOAN, C. G., & Co., Washington, D. C.: 21 manuscripts and books from the estate of W. S. Sutton (59833, purchase).

SLOAN, EARLE, Charleston, S. C.: About 1,000 Eocene bryozoans from South Carolina (58631); about 100 species of Eocene fossils from South Carolina and Georgia, and 60 species of Miocene fossils and 50 miscellaneous Tertiary fossils, from South Carolina (59258, exchange).

SMALLWOOD, Prof. W. M., Lake Clear, N. Y.: 3 mollusks, *Campeloma decisa*, from Lake Clear (58652).

SMITH, Prof. C. PIPER, College Park, Md.: 5 specimens of plants from Maryland (59757).

SMITH, MRS. EMMA J., Washington, D. C.: Oil painting, "Klingie Ford," by Max Weyl (58899, loan).

SMITH, Prof. FRANK, Urbana, Ill.: Earthworm, *Helodrilus welchi*, holotype, collected in Kansas by Dr. Welch and described by the donor (59293).

SMITH, Dr. J. HOLMES, University of Maryland, Baltimore, Md.: 32 anatomical specimens (59361, 59535, 59887).

SMITH, W. BRADFORD, Key West, Fla.: 2 wasps, *Stictia carolina* (59827).

SMITH & KAUFMANN, New York City: 10 samples of silk ribbons, including warp-printed, brocaded, moiré, grosgrain, satin and taffeta (58892).

SMITHSONIAN INSTITUTION:

Bronze medal (the work of Hans Schuler), commemorating the National Star-Spangled Banner Centennial Celebration held in Baltimore, Md., September 6-13, 1914 (59169); fossil bones collected in Siberia by Mr. Benno Alexander, with the Koren ex-

SMITHSONIAN INSTITUTION—Continued.

pedition (59325); bronze medallion received from the Holland Society of New York, commemorating the Three Hundredth Anniversary of the Founding of the Dutch Settlement on Manhattan in 1613 and the Two Hundred-Fiftieth Anniversary of the Founding of the Board of Aldermen in 1665 (59653); 2 bronze medals and 2 diplomas, conferred upon the Institution by the International Jury of Awards of the Panama-Pacific International Exposition, San Francisco, 1915 (59790).

Smithsonian Biological Survey of the Panama Canal Zone: Reptiles, batrachians and fishes, collected by Dr. Seth E. Meek, of the Field Museum of Natural History, and Mr. S. F. Hildebrand, of the Bureau of Fisheries, in 1911 and 1912 (59882, 59904).

Bureau of American Ethnology: 701 archeological specimens and 3 skeletons, from Utah and Wyoming, collected by Mr. Neil M. Judd in the summer of 1915 (58757); barrel of potsherds from the Nacoochee Mound in White County, Ga., being part of the collection gathered during the joint work of the Bureau and the Heye Museum during July and August, 1915 (58819); 7 photographs of beavers and their works (58979); 170 archeological objects collected by Mr. Gerard Fowke at the flint quarry shop sites at Crescent, St. Louis County, Mo. (59015); 23 lower and an upper jaw of Virginia deer, *Odocoileus*, and 14 lower and 3 upper jaws of bears, *Ursus*, from the Nacoochee Mound (59017); small collection of prayer sticks from a Pueblo shrine on the summit of Langley Peak, west of the Rio Grande and south of Rio Chama in New Mexico, collected by Mr. R. H. Chapman (59112); 30 cards used in playing the game "American Revolution," published in 1849, and presented to the Bureau by Mrs. Elizabeth H. Buckingham (59196); Indian potsherds and arrowpoints (53 specimens), mainly collected by Mr. Arthur L. Norman (59252); stone collar from Porto Rico (59280); point and tackle of salmon spear, a halibut hook and 5 small fish-hooks, collected by Mr. Robert H.

SMITHSONIAN INSTITUTION—Continued.

Chapman on Nootka Sound, west coast of Vancouver Island (59288); set of ear perforators formerly owned by Wa'thu-xa-ge of the Tsi'-zhu Wa'-shta-ge gens of the Osage tribe, received from Mr. Francis La Flesche (59782); sacred hawk bundle, or waxobe, of the Buffalo-face People of the Osage tribe, and an Osage Indian war shield, collected by Mr. La Flesche (59792, 59934).

National Museum, collected by members of the staff: Bartsch, Paul: Frog and 3 specimens of plants, from Florida (58562, 58567). Holmes, William H.: Samples of stones used in ancient buildings and sculptures in Honduras and Guatemala (59550); 5 stone implements and a fragment of pottery, from ancient ruins in Honduras and Guatemala (59559); small pitcher of archaic Guatemalan pottery (59677). Hough, Walter: 12 echinoids from the Tertiary rocks of California (59521); grooved stone (hammer or sinker), from a mound at West Berkeley, Cal. (59536). Hrdlička, Aleš: Portions of 53 small and 4 large mammals, from graves in southern Russia (59158). Maxon, William R.: 125 specimens of plants from New York (59907). Maxon, William R., and Paul C. Standley: 100 specimens of plants from Maryland and the District of Columbia (59760). Merrill, George P.: Samples of limestone from Bedford, Ind., and sample of coarse blue-gray marble from Aspen, Colo. (58796). Standley, Paul C.: 220 specimens of plants from Maryland and Virginia (58581); 665 specimens of plants and some land shells, from Florida (59440). Wherry, Edgar T.: Rocks and minerals from Dickerson, Md., and vicinity (58630); 2 stalactites from Lurich, Va. (58813); a series of specimens illustrating the occurrence of glauberite in Triassic rocks, a collection showing diffusion rings in red shale, and 20 specimens illustrating the genesis of chloropal, from Pennsylvania (59847).

National Museum, made in the Anthropological Laboratory: Plaster cast of a "ceremonial stone" of unique shape, the original, of banded slate, being the

SMITHSONIAN INSTITUTION—Continued.

property of Mr. G. A. Webber, Williamsburg, Pa. (58549); 3 casts each of 2 stone pipes, the originals of which are the property of Mr. J. P. MacLean, Franklin, Ohio (59336); 3 casts each of 4 soapstone vessels from Wyoming (59411).

National Museum, made in the Laboratory of Mineral Technology: Model of Portland cement manufacturing plant (59898); a series of 84 cubes representing the distribution of the coal resources of the world amongst the various countries (59943); beehive coke oven model (59957); model showing the origin of coal (59958).

National Museum, made in the Laboratory of Wood Technology: Model of typical turpentine still (59843).

National Zoological Park: Skin and skull of a lion and of a ferret (58553); skin and skull of a fur seal (58623); skin and skull of a coypu from Argentina (58670); kangaroo, *Macropus rufus*, and porcupine, *Hystrix cristata* (58974); California sea-lion, *Zalophus californianus* (59170); lynx from New Hampshire (59177); South African ostrich, *Struthio australis*, Leadbeater's cockatoo, *Cacatua leadbeateri*, and northern raven, *Corvus corax principalis* (59387); head and feet of a Patagonian cavy, and 2 nilgai (59448); black leopard, *Felis pardus* (59668); nilgai, *Boselaphus tragocamelus* (59670); blue-fronted amazon, *Amazona aestiva*, black-necked screamer, *Chauna chavaria*, Lilford's crane, *Grus lilfordi*, black-necked swan, *Cygnus melancoryphus*, blue-bellied lorikeet, *Trichoglossus novae-hollandiae*, and scaly-breasted lorikeet, *Ptilinopus chlorolepidotus* (59756); egg of demoiselle crane, *Anthropoides virgo*, and of pea fowl, *Pavo cristatus* (59865); lesser vasa parrot, *Coracopsis nigra*, black-necked swan, *Cygnus nigricollis*, and Buffon's macaw, *Ara ambiguus* (59866); scaly-breasted lorikeet, *Ptilinopus chlorolepidotus*, and gray jumper, *Struthidea cinerea* (59868).

SNYDER, C. P., Tofty, Alaska: Small collection of fossil bones and fossil seed, from Alaska (58929).

- SOLEY, Lieut. JOHN C., U. S. Navy, New Orleans, La.:** Specimen of seaweed, *Sargassum natans* (59511).
- SOUTH DAKOTA, UNIVERSITY OF, Vermillion, S. Dak. (through Prof. W. H. Over):** 52 specimens of plants from South Dakota (59467).
- SOUTHERN BIOLOGICAL SUPPLY Co., New Orleans, La.:** Marine invertebrates, insects, reptiles and batrachians, from Louisiana (58810, 59216).
- SOWERBY, ARTHUR DE C., Tientsin, China:** 88 mammals, and collections of birds, fishes, reptiles, batrachians and insects, from Manchuria (59055, 59462); 4 large and 16 small mammals and 70 birds, from northern China (59240). Collected for the Museum.
- SPALDING, A. G., & BROS. MANUFACTURING Co., Chicopee, Mass.:** 9 specimens showing the stages of manufacture of a tennis racket and a golf driver (59696).
- SPGAZZINI, DR. CARLOS, La Plata, Argentina:** 73 specimens of plants from Argentina (58947).
- SPICER-SIMSON, T., New York City:** Bronze Preparedness souvenir medal issued by the National Civic Federation, and a bronze Allied Relief souvenir medal issued by the American Fund for French Wounded, designed by the donor (59851).
- SPRINGER, Hon. FRANK, East Las Vegas, N. Mex.:** 93 stone implements collected on St. Paul Hill, opposite St. Paul, Ind. (59543).
- STAMFORD MANUFACTURING Co., THE, Stamford, Conn.:** 4 specimens of dyewoods in the log and 6 of dyewood extracts in jars (59814).
- STANDLEY, Miss JEANETTE P., Fort Myers, Fla.:** 205 specimens of plants from Florida (59626, 59912).
- STANDLEY, PAUL C., U. S. National Museum:** 14 illustrations of plants (58597); 309 specimens of plants, from Maryland, Virginia and the District of Columbia (58806, 58943, 59647, 59716, 59758, 59853, 59908).
- STANDLEY, PAUL C., and H. C. BOLLMAN:** 700 specimens of plants from Dutchess County, N. Y. (58799).
- STATE, DEPARTMENT OF:** 82 drawings in pencil, pen, charcoal, chalk, crayon and water color, executed by eminent contemporary French artists and presented to the people of the United States by citizens of the French Republic as a token of their appreciation of the sympathetic efforts of American citizens toward relieving the distress occasioned by the European war (59014).
- STEARNS, Commander C. D., U. S. Navy:** Unmounted Samoan taupo's head-dress (59537, loan).
- STEELE, E. S., U. S. National Museum:** 609 specimens of plants from the eastern United States (58859, 59119).
- STEINER, E. A., Breckenridge, Colo.:** 10 specimens of ores from the Breckenridge District, Colo. (59312).
- STEPHENSON, DR. L. W. (See under Maryland Geological Survey, and North Carolina State Museum.)**
- STEVENS, Prof. G. W., Cambridge, Mass.:** 1,600 specimens of plants from Oklahoma, of which 800 were purchased and 800 were a gift (58586).
- STONE, Dr. GEORGE S., Punta Gorda, Fla.:** 4 living specimens of plants from Florida (59663, exchange).
- STONEX, WILBER L., Philadelphia, Pa.:** Copy of the Magna Charta (59400).
- STRAUS, A. H., & Co., New York City:** Sample of printed lining silk, "The suffrage victory" (58970).
- STRECKER, JOHN K., Waco, Tex. (through Dr. O. P. Hay):** Skull of a fossil edentate, *Nothotherium* (59218, exchange).
- STRELAND, OSCAR, Philadelphia, Pa.:** Specimen of radiated titanite from Lambertville, N. J. (59206).
- STUNTZ, S. C., Vienna, Va.:** 7 specimens of plants from Virginia (59299).
- STURTEVANT, A. H., New York City:** 3 fruit flies, consisting of 2 specimens of *Drosophila tripunctata* and a specimen of *D. ornatipennis* (59491).

- SUMNER, Mrs. ALLEN M., jr., Dogue, Va.: Child's purple silk dress worn in the forties, and a child's old-fashioned white slip (59229, loan).
- SUSSEX PRINT WORKS, Newton, N. J.: 4 samples of silk dress goods printed with Bolling crest designs (59282).
- SWAN, Miss MARY ALLISON, Garden City, Long Island, N. Y.: Wax doll completely dressed, with fan and muslin jacket, child's blue-and-white china dinner set, and portion of a child's glass tea set (59819, loan).
- SWEZEY, OTTO H., Honolulu, Hawaii: 84 Diptera from the Hawaiian Islands (59505).
- SYDNEY, NEW SOUTH WALES, AUSTRALIA, AUSTRALIAN MUSEUM: 272-gram piece of the Mount Stirling, Australia, meteoric iron (59737, exchange).
- SYDNEY, NEW SOUTH WALES, AUSTRALIA, BOTANIC GARDENS: 370 specimens of plants from Australia (58575, 58840, 59080). Exchange.
- SYDNEY, NEW SOUTH WALES, AUSTRALIA, DEPARTMENT OF MINES: Specimen, weighing 510 grams, of the Molong, New South Wales, pallasite (59204).
- TALLMADGE, ANDREW, Washington, D. C.: Snake, *Eutania*, from Great Falls, Md. (59322); snake, *Storeria dekayi*, from Maryland (59542).
- TAYLOR, Mrs. C. B., Washington, D. C.: Large stuffed specimen of a swell-fish, *Tetraodon* sp. (58804).
- TAYS, J. W., El Paso, Tex.: 35 living specimens of cacti from the vicinity of El Paso (58543).
- TELLO, Dr. JULIO C., Lima, Peru: Skull of an ancient Peruvian from Ica, and an ancient Peruvian "quipus" (record strings) and 4 pieces of highly decorated woven fabric (mummy wrappings), from Nasca (59226).
- TEXAS FINE ARTS ASSOCIATION. (See under Dibrell, Mrs. Joseph B.)
- THELLUNG, Dr. A., Zürich, Switzerland: 41 specimens of plants, *Amaranthus*, consisting largely of type material (58610, exchange).
- THOMAS, Dr. J. OLIVER, Bluefields, Nicaragua, Central America: 3 stone battle-axes from Nicaragua (58838, purchase).
- THOMPSON, Mrs. BURTON, New York City, and Mrs. C. HILL, Middlebury, Vt. (through Dr. Charles F. Langworthy, Washington, D. C.): Collection of dolls and dolls' accessories (58822).
- THOMPSON, Dr. J. C., U. S. Navy, San Diego, Cal.: Reptiles from California (59601, 59806).
- THOMPSON, Mrs. ROBERT MEANS, Washington, D. C.: Cap of cream-colored satin trimmed with pearls, worn by the donor's grandmother, Deborah Van Schelluyne (59103).
- THOMPSON, S. A., Washington, D. C.: Dulcimer about 75 or 80 years old (58852, loan).
- THOMPSON, W. W., Antigua, British West Indies: About 100 small mollusks, collected on Barbuda Island, West Indies (58683).
- THORNBUR, Prof. J. J., University of Arizona, Tucson, Ariz.: Living specimen of a plant, *Gasteria nitida*, from Arizona (59556).
- THURLOW, F. W., Hockley, Tex.: 9 specimens of plants from Texas (59031).
- TIDESTROM, IVAR, Bureau of Plant Industry, Washington, D. C.: 596 specimens of plants from the United States, including the types of *Aquilegia pinetorum*, *A. scopulorum* and *Delphinium pinetorum* (58664, 58784, 58830, 58928, 59780, 59828); 167 specimens of plants, mainly ferns, from the United States and Europe (59121, 59910).
- TILLINGHAST, Miss EDYTHE, New York City (through Mrs. William E. Fendall, Washington, D. C.): Collection of lace (59362); 31 pieces of jewelry (59459). Loan.
- TILLOTSON, Mrs. LILLIAN G. (See under Ransom, Miss Irene, Estate of.)
- TOLMAN, R. P., U. S. National Museum: Oil portrait of Albert Pike, by S. Jerome Uhl (59149, loan).
- TOMLINSON, W. HAROLD, Swarthmore, Pa.: A 22-gram fragment of the Sam Valley, Jackson County, Oreg., mete-

- TOMLINSON, W. HAROLD**—Continued.
oric iron, and a 10-gram fragment of Grossliebenthal, Odessa, Russia, meteoric stone (58889, exchange).
- TORONTO, UNIVERSITY OF**, Toronto, Canada: 2 "Grenadier" fishes, *Macrurus bairdii*, and a sculpin, *Myoxocephalus æneus* (59365).
- TORRE, DR. CARLOS DE LA**, Havana, Cuba (through Mr. John B. Henderson, Washington, D. C.): 2 swallow-tail butterflies, *Papilio gundlachianus* (59488).
- TOWNSEND, DR. C. H. T.**, Bureau of Entomology, Washington, D. C.: Snake, *Diadophis*, from the District of Columbia (58759).
- TRAIN, PERCY**, Manhattan, Nev.: Specimens of the minerals vashegyite and variscite, from near Manhattan (59310).
- TREADWELL, DR. AARON L.**, Vassar College, Poughkeepsie, N. Y.: 16 identified annelids from the Florida Keys and vicinity, including a cotype of *Metalonome brunnea* (59611, exchange).
- TRELEASE, DR. WILLIAM**, University of Illinois, Urbana, Ill.: 461 proofs of illustrations of species of mistletoe, *Phoradendron* (59879).
- TRENCHARD, EDWARD**, Washington, D. C.: Tortoise-shell snuffbox owned by the Hon. John Barclay, mayor of Philadelphia in 1791, and a fan of Chinese workmanship owned by Mrs. Barclay (59142); collection of relics of Capt. Edward Trenchard, U. S. Navy (1784-1824), and of Rear Admiral Stephen Decatur Trenchard, U. S. Navy (1818-1883), grandfather and father, respectively, of Mr. Trenchard (59150, 59214, 59727). Loan.
- TURNAGE, MRS. NEEDHAM C.**, Washington, D. C.: Hand-embroidered batiste shirtwaist front (59091).
- TURNER, GEORGE B.**, Washington, D. C.: 3 photographs of Sioux Indians, collected in 1888 (59117).
- TURPIN, J. H.**, Joseph, Tex.: Abnormal egg of a domestic fowl (59192).
- UNITED STATES BUNTING CO.**, Lowell, Mass.: 4 samples of bunting and 2 skeins of yarn used in its manufacture (58981).
- UNITED STATES GOVERNMENT EXHIBIT BOARD, PANAMA - PACIFIC INTERNATIONAL EXPOSITION, 1915**, San Francisco, Cal.: Group consisting of 3 elk—a bull, a cow and a calf (59544); 160 ethnological objects collected by Mr. John Ogilvie in British Guiana (59567); relief model showing the mineral resources of Alaska (59582); duplicate of the first Langley experimental flying machine, 4 family groups (Eskimo, Carib, Zulu, and Dyak), and 8 village groups (Seminole, Jamamadi, Navaho, Aino, Zulu, Dyak, Samoan and Chipewa) (59732).
- UNITED STATES GYPSUM CO.**, Chicago, Ill.: Various gypsum products (58572, 59578).
- UNIVERSITETETS ZOOLOGISKE MUSEUM.** (See under Copenhagen, Denmark.)
- UNIVERSITY MUSEUM, Philadelphia, Pa.** (through Dr. G. B. Gordon, director): Plaster casts of 4 canopic jars, and a plaster cast of an alabaster vase from Honduras (59077, exchange).
- UPHAM, E. P.**, U. S. National Museum: Photograph of Tich-ke-matse, Cheyenne Indian artist, together with 14 of his drawings in color and 5 pencil sketches of Indian subjects made in 1879-1880 (59767).
- URITA, T.**, Kagoshima, Japan: 18 crustaceans, including the types of 3 new species of crabs, from Japan (58629, 59110).
- VALENTINE & BENTLEY SILK CO., THE**, New York City: 5 samples of printed "Mayflower" silks (59775).
- VAN ESSELTINE, G. P.**, Bureau of Plant Industry, Washington, D. C.: 2 specimens of fungi, from Virginia and New York (58593, 58861); 2 specimens of plants from Ontario (58803); 334 specimens of plants from the District of Columbia and vicinity (59369, 59438).
- VAUGHAN, DR. T. WAYLAND.** (See under Meinzer, O. E., and Sellards, E. H.)
- VERMONT MARBLE CO.**, Proctor, Vt.: Sawed cube of limestone, received through Ward's Natural Science Establishment, Rochester, N. Y. (58761); 2

VERMONT MARBLE Co.—Continued.

slabs of Tokeen Alaska marble, exhibited at the Panama-Pacific International Exposition (59574).

VICTORIA MEMORIAL MUSEUM, GEOLOGICAL SURVEY OF CANADA, Ottawa, Canada (through Mr. R. A. A. Johnston, mineralogist and curator): 382-gram slice of the Thurlow, Hastings County, Canada, meteoric iron (59924, exchange).

VICTORY SILK Co., Paterson, N. J.: 7 samples of men's silk suitings (58809).

WAGNER, GUS, Clements, Kans.: Blind snake from Texas (59704).

WAGSTAFF, R. O., Sugar Grove, Ohio: Small block of mica, uranium stained, from Kona, N. C. (59155).

WALCOTT, Dr. CHARLES D., Secretary, Smithsonian Institution: 2 specimens of photo-mechanical relief in 2 colors (59235); sepia print of painting on carved wood by Rosselino (59392).

WALCOTT, Dr. and Mrs. CHARLES D.: An extensive collection of geological material from the Yellowstone National Park, including siliceous and calcareous sinter, native sulphur, silicified wood and sundry varieties of minerals (59008, collected for the Museum).

WALCOTT, Mrs. CHARLES D., Washington, D. C.: The type and 8 specimens of a new land shell, *Oreohelix yavapai mariz*, from Squaw Creek, near the mouth of Galatin Cañon, Mont. (59179); skin of a silver fox from British Columbia (59410); 47 specimens of Chinese painting on pith paper (59422, loan); photograph of George Washington, copied from an engraving made by St. Memin when he was in America (59651); doll of 1860, with brown flowered delaine dress and white flowered calico dress (59860, loan).

WALKER, BRYANT, Detroit, Mich.: 6 specimens, representing 2 species, of pearly fresh-water mussels from Alabama (58824); 2 mollusks, *Quadrula*, collected at Coal Fire Creek, Pickens County, Ala. (59539); 6 mollusks, *Pleurobema georgiana*, from Shoal Creek, St. Clair County, Ala. (59705).

WALKER, D. H., Tonopah, Nev. (through U. S. Geological Survey): 8 specimens

WALKER, D. H.—Continued.

of potash-bearing salts and associated rock found in the vicinity of Tonopah (59711).

WALKER MUSEUM. (See under Chicago University of.)

WALTON, W. R., Bureau of Entomology: Washington, D. C.: 8 flies, Muscoides from Mexico, Brazil and California (59504).

WALTZ, R. WITMER, Carlisle, Pa.: Spotted turtle, *Clemmys guttatus*, from Pennsylvania (58557); Spanish silver coin, one real, issued in 1782 (59715).

WAR DEPARTMENT:

Army Medical Museum: Skeletons of 19 mammals, 3 birds and a reptile (58723).

Office of the Chief of Engineers: Specimens of masonry of historic interest, of Mississippi River sand, and specimens from Indian mounds (58699).

WARD, P. H., jr., Philadelphia, Pa.: 142 miscellaneous postage stamps, mainly foreign (58872, exchange); 12 miscellaneous foreign postage stamps (58918).

WARD'S NATURAL SCIENCE ESTABLISHMENT, Rochester, N. Y.: Miscellaneous geological specimens (58762, purchase); 2 mastodon teeth (58897, exchange); 485-gram piece of meteoric iron from Cookeville, Tenn. (59210, exchange); 35-gram specimen of the Whitfield County, Ga., meteorite (59273, exchange); mastodon bones, consisting of a tusk, a femur, a humerus, and a cap (59275, exchange); 11 specimens representing the types of 10 species of fossil insects, from Florissant, Colo. (59319, exchange); 36 grams of the Silver Crown, Wyo., meteoric iron, and 15 grams of the Pillistfer, Russia, meteoric stone (59436, exchange); 5 specimens of serpentine asbestos, 1 each from Wyoming, New Jersey, and Arizona, and 2 from Virginia (59443, purchase); 12 specimens of asbestos and asbestos rock (59449, purchase). (See under Georgia Marble Co., and Vermont Marble Co.)

WARE, ROBERT A., Boston, Mass.: 52 specimens of plants from California (59818).

- WASHINGTON, Dr. HENRY S., Geophysical Laboratory, Washington, D. C.: 4 specimens of plants from Mt. Etna, Sicily (59042); specimen of lava with enclosed vitreous masses, from the 1906 eruption of Vesuvius (59068).
- WASHINGTON, UNIVERSITY OF, COLLEGE OF MINES, Seattle, Wash. (through Prof. Milnor Roberts, dean): A series of rocks, ores, and minerals, from Washington (59276).
- WATKINS, CASIMIR, Arequipa, Peru: 69 specimens of plants from Peru (59922).
- WATKINS, GEORGE, Ritta, Fla.: Skin of a round-tailed muskrat, *Neofiber alleni* (58563).
- WATSON, Rear Admiral JOHN C., U. S. Navy (retired), Washington, D. C.: Boat flag flown on the gig in which Commander Charles S. Boggs, U. S. Navy, left the gunboat *Varuna*, commanded by him, when that vessel was sunk, below New Orleans, April 24, 1862, during the engagement between a Confederate flotilla and the U. S. fleet commanded by Admiral David G. Farragut (59607).
- WEATHERBY, C. A., East Hartford, Conn.: 241 specimens of plants from New England and northern New York (58971, 59625).
- WEAVER, Mr. and Mrs. ETHAN ALLEN, Germantown, Pa.: Wooden canteen, leather bullet pouch, 2 powder horns, and a British revenue stamp, of the period of the Revolution (59640).
- WEBB, WALTER D., jr., Washington, D. C.: About 75 amphipods collected in Little River, D. C. (58710); 14 anemones, 2 ascidians and an annelid, from Benedict, Md., on the Patuxent River (58800); crustaceans, including about 50 specimens of *Eucrangonyx gracilis* and a specimen of *Hyalella azteca*, and a worm collected near Black Pond, Va. (59254).
- WEBB, WALTER F., Rochester, N. Y.: Types of 2 Philippine land shells, *Amphidromus floresi* and *A. maculiferus samarensis* (59718); 16 mollusks, *Pythia pantherinus*, from Hinundayan, southern Leyte, P. I. (58912).
- WELCH, Prof. PAUL S., Kansas State Agricultural College, Manhattan, Kans.: 2 specimens (paratypes) of a worm, *Mesenchytraeus gelidus*, and 4 specimens (paratypes) of *M. solifugus rainierensis*, from the snow fields of Mount Rainier (59638).
- WELLS, JOHN A., Kings Mountain, N. C.: Stone ax, 7 arrowpoints, soapstone tobacco pipe, and half of a pick-shaped stone ornament, found in a field near the old Kings Mountain battle ground (59342).
- WETHERILL, IRA CORTRIGHT, Erica, Va.: Small Sun Dance robe of Richard Sanderville, Blackfeet Indian (59472, loan).
- WETMORE, A., Bureau of Biological Survey, Washington, D. C.: Tracheæ of 5 ruddy ducks, *Erismatura jamaicensis* (59632).
- WHERRY, Dr. EDGAR T., U. S. National Museum; Snake, *Heterodon platyrhina*, from Chevy Chase, D. C. (58792); 2 specimens of the mineral fuchsite from Chester County, Pa. (58910); mole, *Scalopus* (58996); specimen of a fern, *Asplenium pinnatifidum*, from Virginia (59078); 2 specimens representing 2 new species of fossil plants from the Triassic of Pennsylvania (59311); specimen showing glauconite crystal cavities in shale, from Steinsburg, Pa. (59573); specimen of a plant, *Scutellaria*, from Virginia (59909).
- WHITE, HUGH W., Bedford, Va.: Chinese pendant bell-slate tablet carved to represent life forms in outline (59686).
- WHITE, JOHN JAY, Washington, D. C.: 30 mounted heads and horns of game animals (58625, loan).
- WILCOX, Brig. Gen. TIMOTHY E., U. S. Army (retired), Washington, D. C.: 4 specimens of plants from the District of Columbia and vicinity (58609, 58865, 59351); tooth of an Alaskan moose (58612).
- WILDS, F. P. (See under Homer Commutator Co.)
- WILLETT, G., Los Angeles, Cal.: 6 shells from Forrester Island, Alaska (59035).

- WILLIAMSON, E. B., Bluffton, Ind.: 190 dragonflies from Central and South America and 10 from Texas and Indian Territory (59506, exchange).
- WILLIS, JULIAN, Williston, S. C.: Great-horned owl, *Bubo virginianus* (59724).
- WILLIS, L. O., New Market, Md.: Beetle, *Hololepta* sp. (59494).
- WILMER, Col. L. WORTHINGTON, Lothian House, Ryde, Isle of Wight, England: Collection of fossil and recent shells from the Isle of Wight (58835).
- WILSON, EZRA, Brookland, D. C.: Specimen of native silver and 1 of erythrite (59050, purchase).
- WILSON, Miss M. L., Haverhill, Mass.: Letter written in 1823 by DeWitt Clinton to his son George, when the latter was a student at Hamilton College, Clinton, N. Y. (58714).
- WINECOFF, Dr. THOMAS E., Fort Yukon, Alaska: Fossil ammonite from Porcupine River, northwestern Canada (59595).
- WINKLEY, Rev. HENRY W., Danvers, Mass.: About 100 phyllopods, collected from a rain barrel at Danvers (59564).
- WOLD, HANS, Christiania, Norway: 3 mounted sea leopards (58876, purchase).
- WOODS, WILLIAM COLCORD, Ithaca, N. Y.: 3 parasitic Hymenoptera, *Biosteres rhagoletis*, 2 of them being paratypes (59499).
- WOODSIDE, THOMAS W., Auburndale, Mass.: 2 leopard skulls from Bihe, Angola, Africa (59774).
- WORCH, HUGO, Washington, D. C.: 4 pianos (58758, loan); 3 pianos—addition to The Hugo Worch Collection (59954).
- WREN, CHRISTOPHER, Plymouth, Pa.: Fragments of pottery vessels from various localities in Wyoming Valley, Pa. (58941); 6 stone implements collected by the donor from the valley of the Susquehanna River; and 2 photographs and a drawing of pipes in possession of the donor (59558).
- WRIGHT, W. S., San Diego, Cal.: 12 Lepidoptera (59538).
- YALE UNIVERSITY, New Haven, Conn.
Peabody Museum of Natural History
 Casts of the bones constituting the type specimen of the carnivorous dinosaur *Allosaurus fragilis* (59745, exchange).
- YAMAWAKI, H. (See under Japan. His Imperial Japanese Majesty's Commission to the Panama-Pacific International Exposition.)
- YELLOWSTONE NATIONAL PARK. (See under Interior, Department of.)
- YERKES OBSERVATORY. (See under Chicago, University of.)
- YORK, Prof. H. H., Brown University, Providence, R. I.: 50 specimens of plants, *Sphagnum*, from New York and Jamaica (59040, exchange).
- YOUNG, Mrs. JOHN RUSSELL, Washington, D. C.: Piece of embroidery (native work of Benares, India), 2 collars of French hand embroidery, pair of tiny gloves (Chinese), photograph of etching by Thomas Moran, and a bronze bust of Oliver Cromwell (59826).
- YOUNG, Miss M. V., U. S. National Museum: Four 4-color half-tones, and 3 hand-colored Chinese prints on pith paper (59848).
- YOUNG, Prof. R. T., Biological Station, Devils Lake, N. Dak.: Frog, *Rana cantabrigensis*, from Turtle Mountains, N. Dak. (58551).
- ZEHNITNER, Dr. LEO, Rio de Janeiro, Brazil: 16 specimens of Cactaceae from Brazil (58963).
- ZETEK, JAMES, Ancon, Canal Zone: Marine invertebrates, mammals, birds, reptiles and fishes, from Panama (58724, 59386).
- ZIMMERMAN, Mrs. J. E., New York City (through Mrs. Julian-James): Collection of dresses, oriental jewelry, etc. (59339).
- ZIMMERMAN, Rev. Jos. A., St. Francis, S. Dak.: 2 teeth of fossil mammals from Rosebud Reservation, S. Dak. (59876).

LIST OF PUBLICATIONS OF THE U. S. NATIONAL MUSEUM ISSUED DURING THE FISCAL YEAR 1915—1916, AND OF PAPERS PUBLISHED ELSEWHERE WHICH RELATE TO THE COLLECTIONS.

PUBLICATIONS OF THE MUSEUM.

ANNUAL REPORT.

Smithsonian Institution | United States National Museum | — | Report on the progress and condition of the United States | National Museum for the | year ending	June 30, 1915 | (Seal) | Washington | Government Printing Office | 1916
	8vo., pp. 1-215.

PROCEEDINGS.

Smithsonian Institution | United States National Museum | — | Proceedings | of the | United States National Museum | — | Volume 48 | — | (Seal) | Washington | Government Printing Office | 1915	Smithsonian Institution | United States National Museum | — | Proceedings | of the | United States National Museum | — | Volume 49 | — | (Seal) | Washington | Government Printing Office | 1916
8vo., pp. i-x, 1-672, pls. 1-46, 42 figs.	8vo., pp. i-xiv, 1-702, pls. 1-83, 206 figs.

BULLETINS.

Smithsonian Institution. | United States National Museum. | — | Bulletin | of the | United States National Museum. | No. 50. | — | The birds | of | North and Middle America: | By | Robert Ridgway, | Curator, Division of Birds. | — | Part VII. | — | (Seal) | Washington: | Government Printing Office. | 1916.	| (Reprint, 1916, with additions) | (Seal) | Washington | Government Printing Office | 1916
8vo., pp. i-xiii, 1-543, pls. 1-24.	8vo., pp. 1-189, 26 pls.
Smithsonian Institution | United States National Museum | Bulletin 70 | — | The National Gallery of Art | Department of Fine Arts | of the National Museum | By | Richard Rathbun | Assistant Secretary of the Smithsonian Institution, in Charge of the | United States National Museum	Smithsonian Institution | United States National Museum | Bulletin 91 | — | Report on the Turton collection of South | African marine mollusks, with additional | notes on other South African shells | contained in the United States | National Museum | By | Paul Bartsch | Curator, Division of Marine Invertebrates | United States National Museum | (Seal) | Washington | Government Printing Office | 1915
	8vo., pp. i-xii, 1-305, pls. 1-54.

Smithsonian Institution | United
States National Museum | Bulletin
92 | — | Bibliographic index of
American | Ordovician and Silurian —
fossils | — | Volume 1 | Volume 2
| By | Ray S. Bassler | Curator of
Paleontology, United States National
Museum | (Seal) | Washington |
Government Printing Office | 1915
Vol. 1, 8vo., pp. i-viii, 1-718;
Vol. 2, 8vo., pp. i-iv, 719-1521,
pls. 1-4.

Smithsonian Institution | United
States National Museum | Bulletin
94 | — | Handbook and descriptive
catalogue of | the meteorite collections
in the | United States National
Museum | By | George P. Merrill |
Head Curator of Geology, United
States National Museum | (Seal) |
Washington | Government Printing
Office | 1915
8vo., pp. i-x, 1-207, pls. 1-41.

PAPERS PUBLISHED IN SEPARATE FORM.

FROM VOLUME 49 OF THE PROCEEDINGS.

- No. 2092. Descriptive catalogue of the Washington relics in the United States National Museum. By Theodore T. Belote. pp. 1-24, pls. 1-27.
- No. 2094. The recent and fossil mollusks of the genus *Rissoina* from the west coast of America. By Paul Bartsch. pp. 33-62, pls. 28-33.
- No. 2095. A revision of the North American Ichneumon flies of the subfamily Opiinae. By A. B. Gahan. pp. 63-95, pls. 34, 35.
- No. 2096. Descriptions of two new species of Entomostraca from Colorado, with notes on other species. By G. S. Dodds. pp. 97-102, figs. 1-10.
- No. 2097. Flies of the genus *Agromyza*, related to *Agromyza virens*. By J. R. Malloch. pp. 103-108, pl. 36, 1 fig.
- No. 2098. Notes on the composition and structure of the Indarch, Russia, meteoric stone. By George P. Merrill. pp. 109-112, pl. 37.
- No. 2099. The dipterous genus *Symphoromyia* in North America. By John Merton Aldrich. pp. 113-142, figs. 1-11.
- No. 2100. The genera and subgenera of raccoons and their allies. By N. Hollister. pp. 143-150, pls. 38, 39.
- No. 2101. Notes on the flies of the genus *Pseudodinia*, with description of a new species. By J. R. Malloch. pp. 151, 152.
- No. 2102. A peculiar oolite from Bethlehem, Pennsylvania. By Edgar T. Wherry. pp. 153-156, pls. 40, 41.
- No. 2103. On a collection of Javanese crane-flies (Tipulidae, Diptera) in the United States National Museum. By Charles Paul Alexander. pp. 157-193, pls. 42-50.
- No. 2104. The Philippine land shells of the genus *Schistoloma*. By Paul Bartsch. pp. 195-204, pl. 51.
- No. 2105. Descriptions of new species of Hymenoptera. By S. A. Rohwer. pp. 205-249.
- No. 2106. Critical notes on the subspecies of the spotted owl, *Strix occidentalis* (*Xantus*). By Harry C. Oberholser. pp. 251-257.
- No. 2107. Notes on the life history and ecology of the dragonflies (Odonata) of Washington and Oregon. By Clarence Hamilton Kennedy. pp. 259-345, figs. 1-201.
- No. 2108. Report on some carbonic acid tests on the weathering of marbles and limestones. By George P. Merrill. pp. 347-349.
- No. 2109. A collection of amphibians and reptiles from Gogebic County, Michigan. By Arthur T. Evans. pp. 351-354.

- No. 2110. A new restoration of *Stegosaurus*. By Charles W. Gilmore. pp. 355-357, pl. 52, 1 fig.
- No. 2111. A colored drawing of the Medeba mosaic map of Palestine in the United States National Museum. By I. M. Casanowicz. pp. 359-376, pl. 53.
- No. 2112. An albino salamander, *Spelerpes bilineatus*. By Arthur M. Banta and Ross Aiken Gortner. pp. 377-379, pls. 54, 55.
- No. 2113. A contribution to the knowledge of the extinct sirenian *Desmostylus hesperus* Marsh. By Oliver P. Hay. pp. 381-397, pls. 56-58.
- No. 2114. *Eperetmus*, a new genus of Trachomedusae. By Henry B. Bigelow. pp. 399-404, pl. 59.
- No. 2115. New neotropical muscoid flies. By Charles H. T. Townsend. pp. 405-440.
- No. 2116. A review of some bivalve shells of the group Anatinacea from the west coast of America. By William Healey Dall. pp. 441-456.
- No. 2117. A new crustacean, *Diaptomus virginienensis*, and a description of *Diaptomus tyrelli* Poppe. By C. Dwight Marsh. pp. 457-462, figs. 1-7.
- No. 2118. Notes on allophanite, fuchsite, and triphylite. By Edgar T. Wherry. pp. 463-467.
- No. 2119. British fossil insects. By T. D. A. Cockerell. pp. 469-499, pls. 60-65.
- No. 2120. On the fore limb of *Allosaurus fragilis*. By Charles W. Gilmore. pp. 501-513, figs. 1-7.
- No. 2121. A synopsis of the races of the crested tern, *Thalasseus bergii* (Lichtenstein). By Harry C. Oberholser. pp. 515-526, pl. 66.
- No. 2122. Three new species of *Anodontites* from Brazil. By William B. Marshall. pp. 527-529, pls. 67-69.
- No. 2123. An account of the crustacea collected by the Walker Expedition to Santa Marta, Colombia. By A. S. Pearse. pp. 531-556, pls. 70-73, figs. 1-9.
- No. 2124. Notes on the species of the molluscan subgenus *Nucella* inhabiting the northwest coast of America and adjacent regions. By William Healey Dall. pp. 557-572, pls. 74, 75.
- No. 2125. Notes on a collection of fishes made by Dr. Edgar A. Mearns from rivers tributary to the Gulf of California. By John Otterbein Snyder. pp. 573-586, pls. 76, 77.
- No. 2126. New fresh-water shells from the Ozark Mountains. By Anson A. Hinkley. pp. 587-589, pl. 78.
- No. 2127. Osteology of *Thescelosaurus*, an orthopodous dinosaur from the Lance formation of Wyoming. By Charles W. Gilmore. pp. 591-616, pls. 79-82, figs. 1-20.
- No. 2128. Diagnoses of new genera of muscoid flies founded on old species. By Charles H. T. Townsend. pp. 617-633.
- No. 2129. The Euphausiacean crustaceans of the "Albatross" expedition to the Philippines. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 33.] By H. J. Hansen. pp. 635-654, pl. 83.
- No. 2130. The genera of the tettiginiid insects of the subfamily Rhaphidophorinae found in America north of Mexico. By A. N. Caudell. pp. 655-690, figs. 1-28.

FROM VOLUME 50 OF THE PROCEEDINGS.

- No. 2131. Nematode parasites of mammals of the orders Rodentia, Lagomorpha, and Hyracoidea. By Maurice C. Hall. pp. 1-258, pl. 1, figs. 1-290.
- No. 2132. A generic revision of the American moths of the subfamily Hypeninae, with descriptions of new genera and species. By William Schaus. pp. 259-399.
- No. 2133. Fishes collected by the United States Bureau of Fisheries steamer "Albatross" during 1888, between Montevideo, Uruguay, and Tome, Chile, on the voyage through the Straits of Magellan. By Will F. Thompson. pp. 401-476, pls. 2-6.
- No. 2134. North American collembolous insects of the subfamilies Achorutinae, Neanurinae, and Podurinae. By Justus W. Folsom. pp. 477-525, pls. 7-25.
- No. 2135. New species of crabs of the families Inachidæ and Parthenopidæ. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 34.] By Mary J. Rathbun. pp. 527-559.
- No. 2136. Revision of the parasitic-hymenopterous insects of the genus *Aphycus* Mayr, with notice of some related genera. By P. H. Timberlake. pp. 561-640, pls. 28-31.
- No. 2137. Description of two new species of fossil turtles, from the Lance formation of Wyoming. By Charles W. Gilmore. pp. 641-646, pls. 32-35.
- No. 2138. Description of three species of crabs (*Osachila*) from the eastern coast of North America. By Mary J. Rathbun. pp. 647-652, pl. 36.

FROM VOLUME 16 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

- Part 14. Plant records of an expedition to Lower California. By Edward A. Goldman. pp. i-xiii, 309-371, pls. 104-133, 1 map.

FROM VOLUME 17 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

- Part 6. Tropical North American species of *Panicum*. By A. S. Hitchcock and Agnes Chase. pp. i-xii, 459-539, figs. 11-149.
- Part 7. Studies of tropical American ferns—No. 6. By William R. Maxon. pp. i-viii, 541-608, pls. 32-43.
- Part 8. Branching and flowering habits of cacao and pataste. By O. F. Cook. pp. i-ix, 609-625, pls. 44-54.

FROM VOLUME 18 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

- Part 3. Studies of tropical American phanerogams—No. 2. By Paul C. Standley. pp. i-x, 87-142.
- Part 4. New or noteworthy plants from Colombia and Central America—5. By Henry Pittier. pp. i-ix, 143-171, pls. 57-80, figs. 88-97.

CLASSIFIED LIST OF PAPERS BASED WHOLLY OR IN PART ON THE NATIONAL COLLECTIONS.¹

MUSEUM ADMINISTRATION.

RATHBUN, RICHARD. Report on the progress and condition of the United States National Museum for the year ending June 30, 1915.

Svo., pp. 1-215, Feb. 12, 1916.

FINE ARTS.

Catalogue of a collection of eighty-two drawings in pencil, pen, charcoal, chalk, crayon and water color, executed by eminent contemporary French artists and presented to the people of the United States by the citizens of the French Republic as a token of their appreciation of the sympathetic efforts of American citizens toward relieving the distress occasioned by the European war.

City of Washington, Nov., 1915. 12 mo., 8 pp. and paper cover.

This recent notable addition to the National Gallery of Art is installed

in the northern end of the main north hall of the new building of the U. S. National Museum. The pictures are all inscribed and signed by the artists.

RATHBUN, RICHARD. The National Gallery of Art. Department of Fine Arts of the National Museum.

Bull. U. S. Nat. Mus., No. 70, Jan., 1916, pp. 1-189, 26 pls.

A reprint of the 1909 edition of Bulletin 70, descriptive of the collections of the National Gallery of Art, including all objects added to the Gallery up to January 1, 1916.

ANTHROPOLOGY.

BELOTE, THEODORE T. Descriptive catalogue of the Washington relics in the United States National Museum.

Proc. U. S. Nat. Mus., 49, No. 2092, Oct. 19, 1915, pp. 1-24, pls. 1-27.

A detailed description of the Washington relics in the Museum, with data on the history of the objects.

CASANOWICZ, I. M. A colored drawing of the Medeba mosaic map of Palestine in the United States National Museum.

Proc. U. S. Nat. Mus., 49, No. 2111, Aug. 23, 1915, pp. 359-376, pl. 53.

A sketch of the history of the town of Medeba; an account of the discovery of the map, which is inlaid in the floor of a building; a description of its archaeological and artistic features; a transcription of the inscriptions which are in Greek; and an identification of the place names embodied in it.

An abstract of the paper, under the same title, appeared in *Art and Arch.*, 3, No. 3, Mar., 1916, pp. 175-178, 1 fig.

HOES, Mrs. ROSE GOUVERNEUR. Catalogue of American historical costumes, including those of the mistresses of the White House as shown in the United States National Museum.

Washington, D. C., 1915, pp. 1-76, 20 pls.

This catalogue, although privately published, treats exclusively of exhibits installed in the National Museum. The contents comprise a foreword by Mrs. Cassie Mason Myers Julian-James, a catalogue of the numerous articles pertaining to the costumes and their installation, and of a large number of other articles relating to historical costumes assembled in adjoining cases. Photographic reproductions of twenty costumed figures are included.

HOLMES, WILLIAM H. Dighton Rock.

Art and Arch., 3, No. 1, Jan., 1916, pp. 53-55, 1 pl.

Dighton Rock is a mass of conglomerate outcropping on the bank of Taunton River, Mass., one face of

¹ A few papers published prior to this fiscal year are included, having been inadvertently omitted from previous reports.

HOLMES, WILLIAM H.—Continued.

which is covered with Indian petroglyphs. The engraved figures are described and the various attempts to read them as archaic alphabetic records are recounted. It is stated, however, that they cannot be read and that there is no question as to their place as Indian pictographs, and that save in so far as the rude drawings of men and animals may be interpreted no interpretation is possible.

Masterpieces of aboriginal American art: 4. Sculpture in the round.

Art and Arch., 3, No. 2, Feb., 1916, pp. 71-85, pls. 1-5, figs. 1-12.

The masterpiece in art is regarded not as the highest achievement of the whole world of art but as the highest achievement of a particular people or period, so that there may be masterpieces of varying degrees of artistic merit. The best work of the American aborigines, although taking a high place in the scale of world art, cannot compare favorably with the masterpieces of Greek or Roman art. The more advanced American peoples were, however, master carvers in wood and stone and countless examples that challenge our admiration are found among the ruins of the ancient cities of Middle America. The works of the Aztecs and Mayas especially are described, illustrated and compared, and their position in the scale of world art indicated.

The oldest dated American monument: A nephrite figurine from Mexico.

Art and Arch., 3, No. 5, May, 1916, pp. 275-278, pls. 1, 2, 1 fig.

This statuette was plowed up by a farmer near San Andres, Tuxtla, Vera Cruz, Mexico, in 1903, and some years later was added to the collections of the National Museum. The figure is of grayish-green nephrite somewhat conical in shape and 6½ inches in height. It is carved to represent a man-bird concept, the head of the man appearing at the top while the remainder of the figure exhibits the back, wings, legs, and feet of a bird in relief. Glyphic inscriptions finely carved occupy the front, sides and back of the figure. The inscription on the front is a date, and as read by Morley, corresponds to 100 B. C. of our calendar. The next earliest date thus far read corresponds to

HOLMES, WILLIAM H.—Continued.

60 A. D., and is inscribed on a small object of jade known as the "Leyden stone."

Examples of spurious antiquities: 1. Guatemalan pottery.

Art and Arch., 3, No. 5, May, 1916, pp. 287, 288, 1 pl., 1 fig.

The prevalence of the manufacture of and the trade in spurious antiquities is dwelt upon and the difficulty of determining the fraudulent work in any particular field, even by the expert, is stated. During the writer's recent visit to Guatemala special effort was made to learn definitely the origin of certain skillfully modeled clay figurines and other objects which have been acquired in the United States from Guatemala as genuine antiquities. Although the factory in which these articles are produced was not visited, it was definitely learned that they are the product of the genius of an Italian sculptor, resident in Guatemala City.

HOUGH, WALTER. Man and metals.

Proc. Nat. Acad. Sci., 2, No. 3, Mar., 1916, pp. 123-129.

A condensed paper dealing with the development of metallurgy through successive processes and inventions for applying increased heat in smelting metals and reducing ores.

HRDLIČKA, ALEŠ. The peopling of America.

Bull. Pan Amer. Union, 41, No. 1, July, 1915, pp. 73-78, pls. 1, 2.

This is in the main a reprint of the paper published under the same title in the *Journal of Heredity*, February, 1915, and deals briefly with the problem of the origin of the American Indians.

An exhibit in physical anthropology.

Proc. Nat. Acad. Sci., 1, No. 7, July, 1915, pp. 407-410.

A concise account of the anthropological exhibits prepared by the author for the Panama-California Exposition. These exhibits are housed in four halls, which illustrate, respectively, man's evolution or phylogeny; his development and growth from embryo onward, or ontogeny; his variations; and his physical decline and elimination. They are of

HRDLIČKA, ALEŠ—Continued.

permanent nature and will form a physical anthropology nucleus in the museum of San Diego.

—— A descriptive catalogue of the section of physical anthropology, Panama-California Exposition.

San Diego, 1914 (1915), pp. 1-15.

A detailed description of the exhibits referred to in the preceding title.

—— The old American stock.

Mag. Daughters Amer. Rev., 47, No. 3, Sept., 1915, pp. 168-171.

Describes anthropometric investigations on representations of the oldest American families, conducted by the author during the last three years in his laboratory at the National Museum. The two main objects of these investigations are, first, to ascertain what physical changes, if any, have taken place in the oldest white Americans under the action of the American environment; and second, to establish a series of reliable standards for future comparisons.

—— Evolution of man in the light of recent discoveries and its relation to medicine.

Washington Med. Annals, 14, No. 6, Nov., 1915, pp. 304-307.

A 4-page abstract of a lecture given by the author before a joint meeting of the Washington Medical and Anthropological Societies, October 13, 1915. It outlines the bases on which rest at the present time our knowledge of man's evolution from lower form, and calls attention to the fact that the process is by no means as yet finished and that it bears direct relation to numerous phases of pathology.

—— Brief notes on recent anthropological explorations under the auspices of the Smithsonian Institution and the United States National Museum.

Proc. Nat. Acad. Sci., 2, No. 1, Jan., 1916, pp. 32-37.

A brief account of seven expeditions made by or under the direction of the author between 1912 and 1915, in connection with the preparation of the exhibits for the Panama-California Exposition. The expeditions were: (1) To the mound region of

HRDLIČKA, ALEŠ—Continued.

Southwest Russia; (2) to the Birusa caves and rock shelters on the Yenisei River, Siberia; (3) to the Southern Siberians and the Mongolians; (4) to Eastern Siberian tribes; (5) to the Philippine Island Negrito; (6) to the St. Lawrence Island Eskimo; and (7) to the African Negro and Bushman.

—— The most ancient skeletal remains of man.

Smithsonian Inst. Special Pub. No. 2300, May 13, 1916, pp. 1-63, pls. 1-41, figs. 1-12.

A new edition, brought up to date, of the paper under the same title published in the Annual Report of the Smithsonian Institution for 1913. The interest in the subject of man's antiquity is such that the first edition was soon exhausted; and as important developments have recently taken place in connection with the Piltdown and other finds, it was thought advisable to prepare a second edition, the object of which is to give reliable and as far as possible first-hand information on the oldest and best authenticated skeletal remains of man and his precursors.

—— Physical anthropology of the Lenape or Delawares, and of the Eastern Indians in general.

Bull. 68, Bur. Amer. Eth., May 1, 1916, pp. 1-130, pls. 1-29, 1 map.

A detailed report on a large, valuable and carefully made collection of Lenape (Munsee) skeletal material donated to the U. S. National Museum by Mr. George C. Heye in 1914; and on the crania of the Eastern Indians in general. The results of these studies are of more than ordinary interest. It appears that the Indians of the entire region east of the Appalachians and Alleghenies, down to North Carolina, were of the same fundamental physical type, and doubtless of one derivation. The Lenape, barring the effects of admixture, show a thorough harmony with the neighboring tribes. The most remarkable fact however which appears to be established by these studies, is that the Iroquois, who spoke a different language and were regarded as distinct people from the Algonquins, show the same type of skull and skeleton with the latter

HRDLIČKA, ALEŠ—Continued.

and are doubtless of the same origin. Many interesting and unexpected results were derived from the study of the smaller bones of the skeletons of this collection.

JUDD, NEIL M. Archeological reconnaissance in western Utah.

Smithsonian Misc. Colls.,
66, No. 3, May 27, 1916,
pp. 64-71, figs. 79-86.

The author's preliminary examination of the archeological remains in

HRDLIČKA, ALEŠ—Continued.

western Utah shows that at least three distinct types of prehistoric habitations formerly existed; that artifacts found in the two types first mentioned indicate a close cultural affinity between their builders, and that the second and third types possess many characteristics in common, together with an unmistakable cultural relationship with the pre-Puebloan ruins scattered widely throughout the Southwest.

PHILATELY.**LEAVY, JOSEPH B. The United States Government collection of postage stamps.**

The Philat. Gaz., 5, No. 8, Aug., 1915, pp. 177-180; 5, No. 9, Sept., 1915, pp. 205-209; 5, No. 10, Oct., 1915, pp. 229-231; 5, No. 11, Nov., 1915, pp. 257-261; 5, No. 12, Dec., 1915, pp. 285-289; 6, No. 1, Jan., 1916, pp. 1-4; 6, No. 2, Feb., 1916, pp. 33-37; 6, No. 3, Mar., 1916, pp. 65-69; 6, No. 4, Apr., 1916, pp. 100-103; 6, No. 6, June, 1916, pp. 190, 191.

The continuation of a complete and detailed list of stamps of the United States and possessions now on exhibition in the U. S. National Museum collection. This list, making

LEAVY, JOSEPH B.—Continued.

up the stamps of the various foreign countries in the order of installation, was begun in 1914 and is to be continued during the coming year.

— New issue notes.

The Philat. Gaz., 5, No. 8, Aug., 1915, pp. 198-200; 5, No. 10, Oct., 1915, pp. 251-254; 5, No. 12, Dec., 1915, pp. 307, 308; 6, No. 1, Jan., 1916, pp. 20, 21; 6, No. 3, Mar., 1916, pp. 88-90; 6, No. 6, June, 1916, pp. 187, 188.

A series of notes on new issues of foreign stamps received from the Universal Postal Union at Berne, Switzerland, through the Post Office Department. They are based entirely on material in the U. S. National Museum.

MAMMALS.**ALLEN, GLOVER M. Bats of the genus *Corynorhinus*.**

Bull. Mus. Comp. Zool.,
60, No. 9, Apr., 1916,
pp. 333-356, 1 pl.

The type of *Corynorhinus megalaotis mexicanus*, a new subspecies, is in the U. S. National Museum.

ALLEN, J. A. Notes on American deer of the genus *Mazama*.

Bull. Amer. Mus. Nat. Hist., 34, Art. 18, Nov. 2, 1915, pp. 521-553.

— The neotropical weasels.

Bull. Amer. Mus. Nat. Hist., 35, Art. 12, Apr. 28, 1916, pp. 89-111.

ALLEN, J. A. List of mammals collected in Colombia by the American Museum of Natural History expeditions, 1910-1915.

Bull. Amer. Mus. Nat. Hist., 35, Art. 18, May 21, 1916, pp. 191-238, 1 map.

ANTHONY, H. E. Panama mammals collected in 1914-1915.

Bull. Amer. Mus. Nat. Hist., 35, Art. 20, June 9, 1916, pp. 357-371, figs. 1-6, including map.

BAILEY, VERNON. Revision of the pocket gophers of the genus *Thomomys*.

North Amer. Fauna, No. 39,
Nov. 15, 1915, pp. 1-136,
pls. 1-8, figs. 1-10, in-
cluding 6 maps.

Describes as new, *Thomomys shel-
doni*, of which the type is in the U. S.
National Museum.

CLARK, AUSTIN H. Two interesting mammals from the island of Tobago, West Indies.

Ann. Mag. Nat. Hist., 8th
Ser., 13, Jan., 1914, pp.
68-70.

Marmosa tobagi Thomas and *Dasy-
pus novemcinctus hoplites* G. M. Allen,
the latter now recorded from Tobago
for the first time.

GOLDMAN, E. A. Notes on the genera *Isothrix* Wagner and *Phyllomys* Lund.

*Proc. Biol. Soc. Washing-
ton*, 29, June 6, 1916, pp.
125, 126.

—— The status of *Sigmodontomys al-
fari* Allen and *Oryzomys ochraceus*
Allen.

*Proc. Biol. Soc. Washing-
ton*, 29, June 6, 1916, p.
127.

HOLLISTER, N. The genera and sub-
genera of raccoons and their allies.

Proc. U. S. Nat. Mus., 49,
No. 2100, Aug. 13, 1915,
pp. 143-150, pls. 38, 39.

The new genus *Nasuella* is de-
scribed.

—— The specific name of the striped
muishond of South Africa.

*Proc. Biol. Soc. Washing-
ton*, 28, Nov. 29, 1915, p.
184.

—— Descriptions of a new genus and
eight new species and subspecies of
African mammals.

Smithsonian Misc. Colls.,
66, No. 1, Feb. 10, 1916,
pp. 1-8.

New genus: *Cercoctenus*. New spe-
cies and subspecies: *Surdisorex polu-
lus*, *Rhinolophus keniensis*, *Eptesicus*
ugandæ, *Cherephon pumilus natva-
shæ*, *Genetta pumila*, *Mungos sangui-
neus parvipes*, *M. albicaudus dileucos*,
Helogale undulata affinis.

HOLLISTER, N. Three new African shrews
of the genus *Crocidura*.

Smithsonian Misc. Colls.,
66, No. 8, May, 1916, pp.
1-3.

Describes the following new species
and subspecies: *Crocidura daphnia*, *C.*
parvipes nisa, *C. simiolus*.

—— The generic names *Epimys* and
Rattus.

*Proc. Biol. Soc. Washing-
ton*, 29, June 6, 1916, p.
126.

Rattus is shown to be the correct
generic name for the rats.

—— A systematic account of the prai-
rie-dogs.

North Amer. Fauna, No. 40,
June 20, 1916, pp. 1-37,
pls. 1-7, figs. 1, 2.

Describes the new subgenus *Leuco-
crossuromys*, and new subspecies
Cynomys gunnisoni zuniensis.

HOWELL, ARTHUR H. Description of a
new pine mouse from Florida.

*Proc. Biol. Soc. Washing-
ton*, 29, Apr. 4, 1916, pp.
83, 84.

The type of this new species, *Pity-
mys parvulus*, is in the U. S. Na-
tional Museum.

JACKSON, HARTLEY H. T. A review of
the American moles.

North Amer. Fauna, No. 38,
Sept. 30, 1915, pp. 1-100,
pls. 1-6, figs. 1-27.

Scapanus orarius schefferi is de-
scribed as new. The type is in the
U. S. National Museum.

—— A new bat from Porto Rico.

*Proc. Biol. Soc. Washing-
ton*, 29, Feb. 24, 1916,
pp. 37, 38.

Describes *Eptesicus wetmorei*, a new
species. The type is in the U. S.
National Museum.

LYON, MARCUS WARD, jr. A porcupine
skull with a pair of supernumerary well
developed incisors in the upper jaw.

Anat. Record, 10, No. 6,
Apr., 1916, pp. 459-462,
1 fig.

MILLER, GERRIT S., jr. Expedition to Borneo and Celebes.

Smithsonian Misc. Colls.,
65, No. 6, July 2, 1915,
pp. 20-25, figs. 19-24.

Account of work by Mr. H. C. Raven in 1914 under the auspices of Dr. W. L. Abbott. Photographs of pangolin and *Gymnura*.

—— The jaw of the Piltdown man.

Smithsonian Misc. Colls.,
65, No. 12, Nov. 24,
1915, pp. 1-31, pls. 1-5,
1 fig.

The jaw hitherto associated with the skull of the Piltdown man is regarded as that of a new species of Pleistocene chimpanzee, *Pan vetus*.

—— Note on the indigenous rodent of Santo Domingo.

Proc. Biol. Soc. Washington,
29, Feb. 24, 1916, p. 47.
Rediscovery of *Plagiodontia zedum*.

—— Remains of two species of *Capromys* from ancient burial sites in Jamaica.

Proc. Biol. Soc. Washington,
29, Feb. 24, 1916, p. 48.

—— Expedition to Borneo and Celebes.

Smithsonian Misc. Colls.,
66, No. 3, May 27, 1916,
pp. 41-44, figs. 53-57.

An account of work by Mr. H. C. Raven in 1915 under the auspices of Dr. W. L. Abbott. Photographs of Celebean lemur and skull of babirusa.

—— Explorations in China and Manchuria.

Smithsonian Misc. Colls.,
66, No. 3, May 27, 1916,
pp. 44-46, fig. 58.

Account of work by Mr. Arthur de C. Sowerby in 1915. Photograph of

MILLER, GERRIT S., jr.—Continued.

skull of *Budorcas bedfordi* not hitherto figured.

—— Work by Copley Amory, jr., in eastern Siberia.

Smithsonian Misc. Colls.,
66, No. 3, May 27, 1916,
pp. 46-51, figs. 59-64.

Photograph of skull of east Siberian moose.

OSGOOD, WILFRED H. New mammals from Brazil and Peru.

Field Mus. Nat. Hist., Pub.
185, Zool. Ser., 10, No.
13, Oct. 22, 1915, pp.
187-198.

TAYLOR, WALTER P. Description of a new subgenus (*Arborimus*) of *Phenacomys*, with a contribution to knowledge of the habits and distribution of *Phenacomys longicaudus* True.

Proc. Cal. Acad. Sci., 4th
Ser., 5, No. 5, Dec. 30,
1915, pp. 111-161, pl. 15,
figs. 1-4.

—— The status of the beavers of western North America, with a consideration of the factors in their speciation.

Univ. Cal. Pub. Zool., 12,
No. 15, Mar. 20, 1916,
pp. 413-495, figs. A-Q.

The type of *Castor subsecratus shastensis*, a new subspecies, is in the U. S. National Museum.

—— Two new *Aplodontias* from western North America.

Univ. Cal. Pub. Zool., 12,
No. 16, May 6, 1916, pp.
497-501.

Describes *Aplodontia rufa grisea* and *A. californica columbiana*.

BIRDS.

BANGS, OUTRAM. (See under John E. Thayer.)

BROOKS, W. SPRAGUE. Notes on birds from east Siberia and arctic Alaska.

Bull. Mus. Comp. Zool., 59,
No. 5, Sept., 1915, pp.
361-413, figs. 1, 2.

Notes on 160 species and subspecies, of which 5 are described as new.

CHAPIN, JAMES P. Four new birds from the Belgian Congo.

CHAPIN, JAMES P.—Continued.

Bull. Amer. Mus. Nat. Hist., 35, Art. 3, Feb.
21, 1916, pp. 23-29, figs.
1-4.

CHAPMAN, FRANK M. Diagnoses of apparently new Colombian birds. IV.

Bull. Amer. Mus. Nat. Hist., 34, Art. 23, Dec.
30, 1915, pp. 635-662.

Twenty-five new species and subspecies are described, and some notes are offered on the northern forms of *Phrygilus unicolor*.

CHERRIE, GEORGE K. Some apparently undescribed birds from the collection of the Roosevelt South American expedition.

Bull. Amer. Mus. Nat. Hist., 35, Art. 17, May 20, 1916, pp. 183-190.

COOKE, WELLS W. Distribution and migration of North American gulls and their allies.

Bull. U. S. Dept. Agric., No. 292, Oct. 25, 1915, pp. 1-70, figs. 1-31.

An account of the distribution and migration of the thirty species of gulls and jaegers of North America.

CORY, CHARLES B. Notes on South American birds, with descriptions of new subspecies.

Field Mus. Nat. Hist., Pub. 183, Ornith. Ser., 1, No. 9, Aug. 7, 1915, pp. 303-335.

The author gives keys to the subspecies of *Chrysomitris punctigula* and to the South American forms of the genus *Playa*, with a revision of the sparrow hawks of South America. Twelve new subspecies of various families are described.

GRINNELL, JOSEPH. A distributional list of the birds of California.

Pacific Coast Avifauna, No. 11, Oct. 21, 1915, pp. 1-217, pls. 1-3, including 2 maps.

A list of 541 species and subspecies ascertained to occur within the limits of the State, with the synonyms and status of each. A hypothetical list of 61 species is added.

HARPER, FRANCIS. (See under Robert Cushman Murphy.)

MEARNS, EDGAR A. Descriptions of seven new subspecies and one new species of African birds (plantain-eater, courser, and rail).

Smithsonian Misc. Coll., 65, No. 13, Nov. 26, 1915, pp. 1-9.

A key to the subspecies of *Turacus harilauhi* is given, and *T. h. medius*, *T. h. crissalis*, and *T. h. caeruleus* are introduced as new subspecies. Other new forms are *Corythoeca cristata yalensis*, *Cursorius gallicus meruensis*, *C. temminckii jebelensis*, *Rhinopithecus africanus raffertyi*, and *Sarothrura loringi*.

MEARNS, EDGAR A. The occurrence of the western house wren on Smith's Island, Northampton County, Virginia.

Auk, 33, No. 2, Apr., 1916, p. 208.

Records the capture of *Troglodytes aëdon parkmani* in Virginia.

—— Description of a new subspecies of the American least tern.

Proc. Biol. Soc. Washington, 29, Apr. 4, 1916, pp. 71, 72.

Sterna antillarum browni is a new subspecies from the Pacific coast.

MILLER, W. DE WITT. Three new genera of birds.

Bull. Amer. Mus. Nat. Hist., 34, Art. 17, Oct. 20, 1915, pp. 515-520.

MOWBRAY, LOUIS L. (See under John T. Nichols.)

MURPHY, ROBERT CUSHMAN, and FRANCIS HARPER. Two new diving petrels.

Bull. Amer. Mus. Nat. Hist., 35, Art. 7, Apr. 1, 1916, pp. 65-67.

Pelecanoides urinatrix chathamensis and *P. georgica* are described as new, the type of the former being in the U. S. National Museum collection.

NICHOLS, JOHN T., and LOUIS L. MOWBRAY. Two new forms of petrels from the Bermudas.

Auk, 33, No. 2, Apr., 1916, pp. 194, 195.

OVERHOLSER, HARRY C. Critical notes on the subspecies of the spotted owl, *Strix occidentalis* (Xantus).

Proc. U. S. Nat. Mus., 49, No. 2106, July 26, 1915, pp. 251-257.

The four currently recognised subspecies are reduced to two, *S. o. caurina* and *S. o. kuachuensis* becoming synonyms of *S. o. occidentalis* and *S. o. lucida*, respectively.

—— A synopsis of the races of the crested tern, *Thalasseus bergii* (Lichtenstein).

Proc. U. S. Nat. Mus., 49, No. 2121, Dec. 23, 1915, pp. 515-526, pl. 66.

Eleven subspecies are recognised and briefly reviewed.

PHILLIPS, JOHN C. Some birds from Sinai and Palestine.

Auk, 32, No. 3, July, 1915, pp. 273-289, pl. 17.

Notes on a collection of 90 species and subspecies from this region.

RICHMOND, CHAS. W. Notes on several preoccupied generic names (Aves).

Proc. Biol. Soc. Washington, 28, Nov. 29, 1915, p. 180.

Thermochalcis, *Oreotriccus*, *Oberholseria*, *Compothraupis* and *Odontorchilus* are substitute names for *Stenopsis* Cassin, *Oreomyias* Berlepsch, *Oreospiza* Ridgway, *Lamprotes* Swainson and *Odontorhynchus* Pelzeln, respectively.

——— Note on the generic name *Bolborhynchus* Bonaparte.

Proc. Biol. Soc. Washington, 28, Nov. 29, 1915, p. 183.

The genotype of *Bolborhynchus* is shown to be *Psittacula lincola* Cassin, *Grammopsittaca* Ridgway becoming a synonym. *Amoropsittaca* is proposed as a new generic name for *Arara aymara* D'Orbigny.

——— An early record of American scoter for California.

Condor, 18, No. 2, Mar. 30, 1916, p. 83.

RIDGWAY, ROBERT. A new pigeon from Jamaica.

Proc. Biol. Soc. Washington, 28, Nov. 29, 1915, p. 177.

Chloroenas inornata exigua is diagnosed as new.

——— The birds of North and Middle America: a descriptive catalogue of the higher groups, genera, species, and subspecies of birds known to occur in North America, from the arctic lands to the Isthmus of Panama, the West Indies and other islands of the Caribbean Sea, and the Galapagos Archipelago. Part VII. Family Cuculidæ. Family Psittacidae. Family Columbidae.

Bull. U. S. Nat. Mus., No. 50, Pt. VII, May 5, 1916, pp. 1-xiii, 1-543, pls. 1-24.

The groups treated in the present volume comprise the orders Coccozyformes, Psittaciformes, and Columbiiformes, embracing 3 families, 44 ge-

RIDGWAY, ROBERT—Continued.

nera and 208 species, with numerous additional extra-limital genera and species diagnosed in the keys. *Enanas plumbea chapmani* and *Zenaidura macroura caurina* are described as new.

RILEY, J. H. Descriptions of three new birds from China and Japan.

Proc. Biol. Soc. Washington, 28, Sept. 21, 1915, pp. 161-164.

——— Note on *Chlorostilbon puruensis*.

Proc. Biol. Soc. Washington, 28, Nov. 29, 1915, p. 183.

This species is found to belong to the genus *Chlorastes*.

——— Description of a new hazel grouse from Manchuria.

Proc. Biol. Soc. Washington, 29, Jan. 25, 1916, pp. 17, 18.

Tetrastes bonasia amurensis is a new subspecies.

——— Two new Ralliformes from tropical America.

Proc. Biol. Soc. Washington, 29, June 6, 1916, pp. 103, 104.

Fulica americana grenadensis and *Craciscus muricogans* are described.

ROBINSON, H. C. On birds collected by Mr. C. Boden Kloss, F. R. G. S., M. B. O. U., on the coast and islands of south-eastern Siam.

Ibis, Ser. 10, 3, No. 4, Oct., 1915, pp. 718-761.

An account of the species, 100 in number, obtained by Mr. Kloss, with descriptions of 4 new ones.

SHUFELDT, R. W. On the comparative osteology of *Orthorhamphus magnirostris* (the long-billed stone-plover).

Emu, 15, Pt. 1, July 1, 1915, pp. 1-25, pls. 1-7.

The osteology of this species is discussed, and compared with related birds.

——— On the comparative osteology of the limpkin (*Aramus vociferus*) and its place in the system.

Nat. Record, 9, No. 8, Aug., 1915, pp. 501-606, figs. 1-16.

An account of the osteology of this species. The limpkins are accorded the rank of a family and are related to the Rallidae.

SHUFELDT, R. W. Comparative osteology of Harris's flightless cormorant (*Nannopterum harrisi*).

Emu, 15, Pt. 2, Oct. 1, 1915, pp. 86-114, pls. 15-19.

Describes the osteology of this species and compares it with other cormorants.

— Comparative osteology of certain rails and cranes, and the systematic positions of the super-suborders Gruiformes and Ralliformes.

Anat. Record, 9, No. 10, Oct., 1915, pp. 731-750, figs. 1-6.

Reviews previous work in these groups, and gives an account of the osteology of *Grus americanus* and other species of the genus.

— On the position of the Aramidæ in the system.

Auk, 33, No. 1, Jan., 1916, pp. 108-111.

Further notes on the subject.

THAYER, JOHN E., and OUTRAM BANGS. A new song sparrow from Nova Scotia.

Proc. New Engl. Zool. Club, 5, May 29, 1914, pp. 67, 68.

— A collection of birds from Saghalin Island.

Auk, 33, No. 1, Jan., 1916, pp. 43-48.

A list of 51 species, with notes.

TODD, W. E. CLYDE. Preliminary diagnoses of seven apparently new neotropical birds.

Proc. Biol. Soc. Washington, 28, Nov. 29, 1915, pp. 169, 170.

TODD, W. E. CLYDE. The birds of the Isle of Pines.

Annals Carnegie Mus., 10, Nos. 1 and 2, Jan. 31, 1916, pp. 146-296, pls. 22-27.

An account of the birds of the island, numbering 142 species and subspecies, with many hypothetical species inserted in systematic sequence. A bibliography of 106 titles is appended.

— Preliminary diagnoses of fifteen apparently new neotropical birds.

Proc. Biol. Soc. Washington, 29, June 6, 1916, pp. 95-98.

The type of one of the new forms, *Falco fusco-cerulescens septentrionalis*, is in the U. S. National Museum.

WETMORE, ALEX. An anatomical note on the genus *Chordeiles* Swainson.

Proc. Biol. Soc. Washington, 28, Nov. 29, 1915, pp. 175, 176, fig. 4.

Demonstrates the presence of a small gall-bladder in this genus, contrary to the statements of earlier investigators.

— Birds of Porto Rico.

Bull. U. S. Dept. Agric., No. 328, Mar. 24, 1916, pp. 1-140, pls. 1-10.

An account of the 162 species recorded from the island, with much information on the food of the various species, based chiefly on the author's investigations covering a period of nine months.

WILLETT, GEORGE. Summer birds of Forrester Island, Alaska.

Auk, 32, No. 3, July, 1915, pp. 295-305, pls. 19, 20.

A list of the species observed, with notes.

REPTILES AND BATRACHIANS.

BANTA, ARTHUR M., and ROSS AIKEN GORTNER. An albino salamander, *Spelerpes bilineatus*.

Proc. U. S. Nat. Mus., 49, No. 2112, Aug. 31, 1915, pp. 377-379, pls. 54, 55.

This albinotic specimen which was colored uniform yellowish orange was collected as a larva in May, 1912. Pl. 54 is a color reproduction of the transformed animal and pl. 55 represents the normal coloration of the species.

BARBOUR, THOMAS. The reptiles and amphibians of the Isle of Pines.

Annals Carnegie Mus., 10, Nos. 1 and 2, Art. 12, Jan. 31, 1916, pp. 297-308, pl. 28.

This paper, which lists 26 species from the Isle of Pines, Cuba, is based in part on the collection in the U. S. National Museum made by Palmer and Riley in 1900.

BARBOUR, THOMAS, and G. KINGSLEY NOBLE. A revision of the lizards of the genus *Ameiva*.

Bull. Mus. Comp. Zool., 50, No. 6, Oct., 1915, pp. 417-479.

The senior author studied part of the material in the U. S. National Museum and had photographs made of 2 of its types. The description of the type of *Ameiva tobagana* (Cope) on pp. 458-460 is by the curator of reptiles in the U. S. National Museum.

——— A revision of the lizards of the genus *Cyclura*.

Bull. Mus. Comp. Zool., 60, No. 4, Feb., 1916, pp. 139-164, pls. 1-15.

The type of 1 of the new species, *Cyclura stejnegeri*, from Mona Island, between Porto Rico and Haiti, is in the U. S. National Museum, No. 29367.

——— and C. T. RAMSDEN. A new anolis from Cuba.

Proc. Biol. Soc. Washington, 29, Jan. 25, 1916, pp. 19, 20.

The new species, *Anolis mestrei*, is represented in the U. S. National Museum by 4 paratypes.

DUNN, E. R. Two new salamanders of the genus *Desmognathus*.

Proc. Biol. Soc. Washington, 29, Apr. 4, 1916, pp. 73-76.

Desmognathus monticola and *D. ochrophæa carolinensis* are described as new. Types and paratypes of both forms are in the U. S. National Museum.

EVANS, ARTHUR T. A collection of amphibians and reptiles from Gogebic County, Michigan.

Proc. U. S. Nat. Mus., 49, No. 2100, July 26, 1915, pp. 351-354.

Based on a collection from the extreme western end of the upper peninsula of Michigan made during 1913 and 1914 and now in the U. S. National Museum.

GORTNER, ROSS AIKEN. (See under Arthur M. Banta.)

KLOSS, C. BODEN. (See under Malcolm Smith.)

NOBLE, G. KINGSLEY. (See under Thomas Barbour.)

RAMSDEN, C. T. (See under Thomas Barbour.)

SMITH, MALCOLM, and C. BODEN KLOSS. On reptiles and batrachians from the coast and islands of south-east Siam.

Journ. Nat. Hist. Soc. Siam, 1, No. 4, Dec. 15, 1915, pp. 237-249.

The collection was made by Mr. Kloss during December and January, 1914-1915. A set of the specimens was generously presented to the U. S. National Museum through the instrumentality of Dr. W. L. Abbott.

STEJNEGER, LEONHARD. New generic name for a tree-toad from New Guinea.

Proc. Biol. Soc. Washington, 29, Apr. 4, 1916, p. 85.

Nyctimystes is proposed as a new genus, with *N. papua* Boulenger as the type.

——— Notes on amphibænian nomenclature.

Proc. Biol. Soc. Washington, 29, Apr. 4, 1916, p. 85.

Proposes *Anopsidæna* as a substitute generic name for *Anops* Bell, preoccupied, and *Caden bianoides* as a new specific name for *C. punctatus* (Bell) preoccupied.

VAN DENBURGH, JOHN. Four species of salamanders new to the State of California, with a description of *Plethodon elongatus*, a new species, and notes on other salamanders.

Proc. Cal. Acad. Sci., 4, No. 7, May 12, 1916, pp. 215-221.

The paper contains several important references to specimens and records in the U. S. National Museum.

FISHES.

BEAN, TABLETON H. Description of a new cisco from Lake Erie.

Proc. Biol. Soc. Washington, 29, Feb. 24, 1916, pp. 25, 26.

Describes *Leucichthys macropterus*, collected by Mr. Phillip H. Hartman in Lake Erie.

COCKERELL, T. D. A. Scales of Panama fishes.

Proc. Biol. Soc. Washington, 28, Sept. 21, 1915, pp. 151-159.

Based on scales taken from Panama Canal Zone fishes collected by Dr. S. E. Meek, Mr. S. F. Hildebrand and others.

RADCLIFFE, LEWIS. The sharks and rays of Beaufort, North Carolina.

Bull. Bur. Fisheries, 34, No. 822, Apr. 6, 1916, pp. 239-284, pls. 38-49, figs. 1-26.

SNYDER, JOHN OTTERBEIN. Notes on a collection of fishes made by Dr. Edgar A. Mearns from rivers tributary to the Gulf of California.

SNYDER, JOHN OTTERBEIN—Continued.

Proc. U. S. Nat. Mus., 49, No. 2125, Dec. 23, 1915, pp. 573-586, pls. 76, 77, 1 fig.

Notropis mearnsi is described as a new species from the Yaqui Basin.

THOMPSON, WILL F. Fishes collected by the United States Bureau of Fisheries Steamer "Albatross" during 1888, between Montevideo, Uruguay, and Tome, Chile, on the voyage through the Straits of Magellan.

Proc. U. S. Nat. Mus., 50, No. 2133, May 20, 1916, pp. 401-476, pls. 2-6.

The following species are described as new: *Idiacanthus retrodorsalis*, *Agonopsis asperoculis*, *Notothenia longicauda*, *N. gilberti*, *N. latifrons*, *N. jordani*, *Symphurus bergi*, *Laomonema multiradiata*. As joint author with C. H. Gilbert, the following new species are described: *Coryphaenoides ariommus*, *Nezumia pudens*, *Ceolorhynchus patagoniae*, *C. chilensis*.

UROCHORDA.

BARTSCH, PAUL. The status of the tunicate genera Appendicularia and Fritillaria.

Proc. Biol. Soc. Washington, 28, Aug. 23, 1915, pp. 145, 146.

BARTSCH, PAUL—Continued.

Proposes *Appendicula* new name for *Appendicularia*, citing *Appendicularia sicula* Fol as holotype and proposes *Fritillum* new name for *Fritillaria*, designating *Fritillaria magachile* Fol as type.

MOLLUSKS.

BARTSCH, PAUL. The recent and fossil mollusks of the genus *Rissoina* from the west coast of America.

Proc. U. S. Nat. Mus., 49, No. 2094, July 24, 1915, pp. 33-62, pls. 28-33.

Gives a concise review of the history of the various members of this group, presents analytical keys to the subgenera and species of West American *Rissoinas*, figures and gives a fuller diagnosis of several previously recorded species, describes 22 new species and proposes 1 new name, as cited herewith: *Rissoina excolpa*, *R. gisna*, *R. favilla*, *R. mazatlanica*, *R. helena*, *R. io*, *R. dina*, *R. peninsularis*, *R. adamsi*, *R. townsendi*, *R. barthelowi*, *R. lapazana*, *R. mista*, *R.*

BARTSCH, PAUL—Continued.

burragel, *R. nereina*, *R. pleistocena*, *R. californica*, *R. mexicana*, *R. cleo*, *R. cerrosensis*, *R. dalli*, *R. coronadensis*, and *R. (Folinia) signae*, new name for *R. insignis* De Folin not *R. insignis* Adams and Reeve. The types are in the U. S. National Museum.

— The Philippine land shells of the genus *Schistoloma*.

Proc. U. S. Nat. Mus., 49, No. 2104, July 24, 1915, pp. 195-204, pl. 51.

Redescribes the genus *Schistoloma*, grouping the Philippine shells under 2 subgenera—*Schistoloma* and *Hololoma* new subgenus; discusses the geographical distribution of the group

BARTSCH, PAUL—Continued.

and describes the following new subspecies: *Schistoloma* (*Schistoloma*) *alta mindoroensis*, *S. (S.) a. romblonensis*, *S. (S.) a. sibuyanensis*, *S. (S.) a. pygmaea*, *S. (S.) magregori tablasensis*, *S. (S.) m. webbi*, *S. (Hololoma) quadrasi coronensis*. The types are in the U. S. National Museum.

— Report on the Turton collection of South African marine mollusks, with additional notes on other South African shells contained in the United States National Museum.

Bull. U. S. Nat. Mus.,
No. 91, July 23, 1915,
pp. 1-xli, 1-305, pls.
1-54.

This report presents a critical study of a collection of marine mollusks made by Lieut. Col. W. H. Turton, D. S. O., late Royal Engineers, on four visits to Port Alfred, 1902, 1904, 1905 and 1911, staying there altogether sixteen months. It is further enlarged to embrace all the mollusks contained in the U. S. National Museum from the South African faunal area, which series includes some very important shells, namely, Gould's "types," which are given a fuller diagnosis and are now figured for the first time. At the end of the paper is given a list of all the species that have been reported from South Africa not contained in the collection of the U. S. National Museum from that region. Two new genera, 234 new species, 5 new subspecies are described and 2 new names are proposed: *Styllola africana*, *Acteocina smithi*, *Cyllichna africana*, *Haminea alfredensis*, *Ringicula turtoni*, *R. africana*, *Cylindrobulla turtoni*, *Conus laven-dulus*, *C. alfredensis*, *Clionella sybaritica*, *C. neretia*, *C. elizabethae*, *C. turtoni*, *Clavatulula halpizex*, *C. had-strepta*, *C. helena*, *Drillia stigma*, *D. lara*, *D. hallidoma*, *Mangilia dina*, *M. gisma*, *M. nisaqa*, *M. helga*, *M. benjamini*, *M. arata*, *M. eucoemia*, *M. herilda*, *M. nympha*, *M. humerosa*, *Cythara ima*, *Daphnella alfredensis*, *Donoconia stimpsoni*, *Cancellaria dalli*, *Marginea eucoemia*, *M. cosmia*, *M. turtoni*, *M. cleo*, *M. leptia*, *M. alfredensis*, *M. almo*, *Mitra helena*, *M. ima*, *M. carifa*, *Fasciolaria alfredensis*, *Cominella porcata multilirata*, *C. alfredensis*, *Euthria turtoni*, *Colubraria alfredensis*, *Bullia acpynota*, *B. lara*, *B. alfredensis*, *B. almo*, *Columbella (Seminella) alfredensis*, *C. (Anachis) io*, *Murex alfredensis*, *Sistrum alfredensis*, *Epitonium africanum*, *E. aglata*, *Acrilla thalia*, *Graphis*

BARTSCH, PAUL—Continued.

africana, *Melanella carifa*, *M. kafr*, *M. alfredensis*, *M. iota*, *M. faria*, *M. thalia*, *M. asser*, *M. acrifia*, *M. cifara*, *M. trafca*, *Subculina magnifica*, *Niso alfredensis*, *Pyramidella (Orinella) africana*, *P. (O.) alfredensis*, *P. (O.) ima*, *P. (Aclazopyramis) norae*, *P. (Synnola) pyrria*, *P. (S.) agenes*—new name for *Eulimella nises* Smith—not *Obeliscus (Triptychus) nirus* Mörch.—*P. (S.) tarpia*, *P. (S.) hera*, *Turbonilla (Ptychulimella) erua*, *T. (Pseidogrya) adaba*, *T. (Strioturbonilla) secura*—new name for *T. obeliscus* Gould—not *Chemnitzia obeliscus* C. B. Adams.—*T. (Pyrgoklamprose) angus*, *T. (Pyrgiscus) helena*, *T. (P.) atone*, *T. (P.) tritonia*, *T. (P.) zenobia*, *T. (P.) maia*, *T. (P.) tefunia*, *T. (P.) spes*, *T. (Cingulina) aglata*, *T. (C.) callista*, *T. (Carellopsis) carifa*, *T. (Mormula) cifara*, *Odotomia (Odotomella) farica*, *O. (Egilia) turtoni*, *O. (Pyrgulias) arfica*, *O. (Mraida) agana*, *O. (Menes-lio) carifa*, *O. (M.) rifaca*, *O. (M.) ficara*, *O. (Eualca) eithra*, *O. (E.) ges*, *O. (E.) cifara*, *O. (E.) acrifia*, *O. (Odotomia) trafca*, *O. (O.) kafr*, *Eugyris gemmifera lepta*, *Nuculoculus alfredensis*, *Amphiperas smithi*, *Tripharis atea*, *T. helena*, *T. smithi*, *T. elia*, *T. milda*, *T. oreada*, *T. africana*, *T. capensis*, *T. madria*, *T. sabita*, *T. nina*, *T. ima*, *Cerithiopsis (Cerithiopsis) alfredensis*, *C. erua*, *C. (Cerithiopsis) nina*, *C. (C.) nisaqa*, *C. (C.) saba*, *Sella alfredensis*, *S. africana*, *S. smithi*, *Eumeta bia*, *Turritella stimpsoni*, *Littorina africana tryphena*, *Clutha africana*, *Alabina alfredensis*, *A. africana*, *Diala africana*, *D. capensis*, *D. almo*, *Heliculus africanus*, *Nodulus africanus*, *Sabaneza pyrria*, *S. thalia*, *Amphihalampus turtoni*, *A. africanus*, *Alvania nemo*, *A. alfredensis*, *A. almo*, *A. ima*, *Rissoina calia*, *R. eucoemia*, *Microsetia gisma*, *M. halla*, *M. helga*, *M. ima*, *Baricis smithi*, *Fenella almo*, *Assiminea capensis*, *Natica stimpsoni*, *N. alfredensis*, *N. africana*, *N. nemo*, *N. siddontiana*, *Vanikoro africana*, *Phasianella africana*, *Leptothyra africana*, *L. carminea*, *L. alfredensis*, *Cianculus alfredensis*, *Gibbula thalia*, *G. hera*, *G. aglata*, *G. medusa*, *G. rifaca*, *Calliostoma eucoemia*, *C. africana*, *Cynica gloriosa*, *C. alfredensis*, *C. africana*, *Tetostoma alfredensis*, *Vitrinella rifaca*, *V. cifara*, *V. ficara*, *V. factra*, *V. (Docomphala) arifca*, *Cyclostrema alfredensis*, *Cyclostremella farica*, *C. africana*, *Caporbis*, n. g. *C. africana*, *Pondorhis*, n. g. *P. alfredensis*, *Discopsis alfredensis*, *D. africana*, *D. turtoni*, *Leptogyra africana*, *Habitu alfredensis*, *Puncturella africana*, *Dino-*

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plaz gigas alfredensis, *Barbatia alfredensis*, *B. cafrina*, *Atrina alfredensis*, *Hochstetteria alfredensis*, *H. paramoia*, *Philobrya africana*, *Lima africana*, *Crenella alfredensis*, *Modiolaria africana*, *M. ima*, *Cuna concentrica*, *Venericardia africana*, *Condylocardia* sp., *Cardiopsis alfredensis*, *Digitaria africana*, *Diplodonta africana*, *D. almo*, *Felaniella alfredensis*, *Ungulina alfredensis*, *Scintilla turtoni*, *Erycina alfredensis*, *E. ima*, *E. carifa*, *E. rifa*, *Bornia farica*, *B. arfica*, *B. (Pythina) africana*, *Rochefortia enora*, *R. elsa*, *R. mlida*, *R. helena*, *R. io*, *R. farma*, *Lasea turtoni*, *Circe alfredensis*, *Anomalocardia alfredensis*, *Tellina albinella alfredensis*, *Abra africana*, *Theora alfredensis*, *Solen alfredensis*, *Eastonia africana*, *Macra alfredensis*, *Pholas alfredensis*. The types are in the U. S. National Museum collection.

——— Report on Bahama Cerions planted on the Florida Keys.

Carnegie Inst. of Washington, Year Book, No. 14, 1915, pp. 194-196.

Abstract of report on breeding experiments with *Cerions*.

——— An attempt to colonize the tree snail, *Liguus fasciatus*, at Tortugas.

Carnegie Inst. of Washington, Year Book, No. 14, 1915, pp. 196, 197.

Records an effort to introduce this land shell on the Tortugas, Fla.

——— Marine borers, Naval Station, Pearl Harbor, Hawaii.

Bull. No. 22, Public Works of the Navy. Under the cognizance of the Bureau of Yards and Docks and the Corps of Civil Engineers, U. S. Navy, Mar., 1916, p. 27, 2 illustrations.

Extract from letter of Civil Engineer Samuel Gordon, U. S. N., giving first record of the destructive mollusks belonging to the genera *Marteia*, *Xylotrypa* and *Teredo*, in the Hawaiian Islands, with notes on the habits of these organisms.

——— Experiments with Cerions on the Florida Keys.

Smithsonian Misc. Colls., 66, No. 3, May 27, 1916, pp. 52, 53.

Brief account of this year's report on the ecological experiments with the Bahama *Cerion* colonies planted on the Florida Keys; note on the

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transplantation of the Florida tree snail, *Liguus fasciatus*, to the Tortugas.

DALL, WILLIAM HEALEY. Notes on the West American species of *Fusinus*.

Nautilus, 29, No. 5, Sept., 1915, pp. 54-57.

Fusinus colpoicus from Guaymas, Mexico; *F. porticus* from Panama; *F. centrifugus* from the Galapagos Islands; and *F. (?) orcutti* from Mazatlan are described as new. *F. rugosus* Trask, not Lamarck, is renamed *F. traski*, and *F. robustus* Trask, not Beyrich, is renamed *F. monksae*. The types are in the U. S. National Museum.

——— Notes on American species of *Mactrella*.

Nautilus, 29, No. 6, Oct., 1915, pp. 61-63.

The American species are enumerated and their synonymy is given. *Mactrella clisia* from the west coast of Mexico is described as new. The type is in the National Museum.

——— The Scottish National Antarctic Expedition.

Science (n. s.), 42, No. 1090, Nov. 19, 1915, pp. 731, 732.

Review of the zoological reports on the collections of the expedition, parts II-XX.

——— A review of some bivalve shells of the group Anatinacea from the west coast of America.

Proc. U. S. Nat. Mus., 49, No. 2116, Nov. 27, 1915, pp. 441-456.

The following new species are described, the types being in the National Museum: *Thracia beringi*, *T. challistana*, *T. diegensis*, *T. colpoica*, *Cyathodonta dubiosa*, *C. lucasana*, *C. pedroana*, *C. galapagana*, *C. cruziana*, *Kennerlyia granulata*, *K. conveza*, *K. patagonica*, *Coelodon radians*, *Foveadens* (new subgenus of Pandoridae), *F. panamensis*, *Lyonsia fretalis*; the new name *Lyonsia gouldii* is given to *O. Osteodema nitidum* Gould not of Fabricius.

——— The international rules of zoological nomenclature, with appendix and summaries of opinions No. 1 to No. 56.

Science (n. s.), 42, No. 1092, Dec. 3, 1915, p. 805.

Note on publications relating to the rules.

DALL, WILLIAM HEALEY. Notes on the species of the molluscan subgenus *Nucella* inhabiting the northwest coast of America and adjacent regions.

Proc. U. S. Nat. Mus., 49, No. 2124, Dec. 11, 1915, pp. 557-572, pls. 74, 75.

This reviews the synonymy and geographical distribution of the group, describes the species minutely and names new varieties as follows: *Thais* (*Nucella*) *lamellosa* Gmelin, vars. *franciscana*, *hormica*, *neptunea*, *cymica*, and *sitkana*; *T. (N.) canaliculata* var. *compressa*; *T. (N.) emarginata* var. *projecta*; all of which are represented by specimens in the U. S. National Museum.

——— Prodrôme of a revision of the Chrysodomoid whelks of the Boreal and Arctic region.

Proc. Biol. Soc. Washington, 29, Jan. 25, 1916, pp. 7, 8.

The following are named as new and the type indicated: Sections Sulcosipho, Latisipho, Latifusus, Microfusus, Helicofusus, and Japellion; subgenera *Barbitonia* and *Retifusus*. The material upon which the revision is based is in the U. S. National Museum.

——— Two new bivalve shells from Uruguay.

Nautilus, 29, No. 10, Feb., 1916, pp. 112, 113.

Glycymeris diaphorus and *Callocardia* (*Agriodesma*) *felipponei* are described as new. The types are in the U. S. National Museum.

——— Notes on the Californian species of *Adula*.

Nautilus, 30, No. 1, May, 1916, pp. 1-3.

A general revision of the species, showing among other things that the shell commonly cited as *Adula stylina* Carpenter, was described by Philippi sixteen years earlier under the specific name of *californiensis*. The material is in the U. S. National Museum.

DALL, WILLIAM HEALEY. A new species of *Onchidiopsis* from Bering Sea.

Proc. Acad. Nat. Sci. Phila., May, 1916, pp. 376-378.

Onchidiopsis (*Atlantolimax*) *benesi* is described as new. The type is in the U. S. National Museum.

HENDERSON, JOHN B. Land-shells from Anafe Hill in the Havana Province, Cuba.

Nautilus, 29, No. 12, Apr., 1916, pp. 135-137.

An account of a day's collecting in the Anafe Hill region, with a list of the species found. This article is based partly on Museum material.

HINKLEY, ANSON A. New fresh-water shells from the Ozark Mountains.

Proc. U. S. Nat. Mus., 49, No. 2126, Dec. 23, 1915, pp. 587-589, pl. 78.

Gives a list of the species of mollusks collected during a two weeks' trip in the Ozark region and describes as new the following species: *Anclosa arkansensis*, *Pyrgulopsis ozarkensis*, *Somatogyrrus crassilabris*. The types are in the U. S. National Museum.

MARSHALL, WILLIAM B. Three new species of anodontites from Brazil.

Proc. U. S. Nat. Mus., 49, No. 2122, Dec. 11, 1915, pp. 527-529, pls. 67-69.

Describes as new the following species: *Anodontites salmonea*, *A. darochai*, *A. aurora*. The types are in the U. S. National Museum.

——— A new genus and species of naiad from the James River at Huron, South Dakota.

Nautilus, 29, No. 12, Apr., 1916, pp. 133-135, pl. 4.

Cokeria, new genus, and *C. southalli*, new species, are described and figured. The type is in the U. S. National Museum.

ONYCHOPHORES.

CLARK, AUSTIN H. A note on the occurrence of *Epiperipatus imthurni* (Sclater).

Proc. Biol. Soc. Washington, 28, Nov. 29, 1915, p. 182.

Quotation from a letter from Mr. Gilbert E. Bodkin, government eco-

CLARK, AUSTIN H.—Continued.

nomist biologist for British Guiana, regarding the occurrence of *Epiperipatus imthurni* (Sclater) in Issororo, British Guiana. Specimens in the U. S. National Museum.

INSECTS.

ALDRICH, JOHN MERTON. The dipterous genus *Symphoromyia* in North America.

Proc. U. S. Nat. Mus., 49, No. 2099, July 16, 1915, pp. 113-142, figs. 1-11.

Gives key of the species and describes 8 new species.

ALEXANDER, CHARLES PAUL. On a collection of Javanese crane-flies (Tipulidae, Diptera) in the United States National Museum.

Proc. U. S. Nat. Mus., 49, No. 2103, Aug. 13, 1915, pp. 157-193, pls. 42-50.

One new genus, 1 new subgenus, 26 species and 1 new subspecies are described.

BARBER, H. S. *Macrosiagon flavipennis* in cocoon of *Bembex spinolæ*.

Proc. Ent. Soc. Washington, 17, No. 4, Dec. 31, 1915, pp. 187, 188.

Contains a record of the parasitism by this adult with reference to the other species of the family which have been reared and the hosts they attack.

CAUDELL, A. N. Three interesting Orthoptera from the vicinity of Washington, D. C.

Proc. Ent. Soc. Washington, 17, No. 4, Dec. 31, 1915, p. 189.

— The genera of the tettiginiid insects of the subfamily Rhaphidophorinae found in America north of Mexico.

Proc. U. S. Nat. Mus., 49, No. 2130, Jan. 7, 1916, pp. 655-690, figs. 1-28.

Tables of the groups and of the species are given and 2 new genera and 7 new species are described.

CRAWFORD, J. C. A new species of the genus *Chalcis*.

Insector Insectiz Menstruus, 3, Nos. 5-7, July 20, 1915, pp. 89, 90.

Describes *C. hammani* from New Mexico.

— The genus *Secodella* in North America.

Proc. Ent. Soc. Washington, 17, No. 3, Sept. 18, 1915, pp. 142-144.

Gives a table of species and describes 4 new species.

CRAWFORD, J. C. New North American Hymenoptera.

Insector Insectiz Menstruus, 3, Nos. 8-10, Dec. 11, 1915, pp. 107-109.

Describes 3 new species.

— The bee genus *Holocopasites* Ashmead.

Insector Insectiz Menstruus, 3, Nos. 8-10, Dec. 11, 1915, pp. 123-126.

Describes 3 new species and gives a table of all known species.

CUSHMAN, R. A. Descriptions of new Ichneumonidae and taxonomic notes.

Proc. Ent. Soc. Washington, 17, No. 3, Sept. 10, 1915, pp. 132-142.

Describes 1 new genus, 8 new species, and gives a table of the species of the genus *Omoragus*.

— (See also under S. A. Rohwer.)

DYAR, HARRISON G. Two new Lepidoptera from the Antilles.

Insector Insectiz Menstruus, 3, Nos. 5-7, July 20, 1915, p. 62.

Describes *Ctenucha hilliana* and *Laetilia portoricensis*.

— New American Lepidoptera chiefly from Mexico.

Insector Insectiz Menstruus, 3, Nos. 5-7, July 20, 1915, pp. 79-85.

Describes 1 new genus and 15 new species and contains notes on other species.

— Pyralidae of Bermuda.

Insector Insectiz Menstruus, 3, Nos. 5-7, July 20, 1915, pp. 86-89.

Describes 4 new species with notes on various other species.

— and FREDERICK KNAB. Notes on the species of *Culex* of the Bahamas.

Insector Insectiz Menstruus, 3, Nos. 8-10, Dec. 11, 1915, pp. 112-115.

Describes 1 new species.

— (See also under Leland O. Howard.)

ELY, CHARLES R. New species of the genus *Gracilaria* and notes on two species already described.

Insector Insectiv. Menstruus, 3, Nos. 5-7, July 20, 1915, pp. 51-62.

Describes 9 new species.

FOLSOM, JUSTUS W. North American collembolous insects of the subfamilies Achorutinae, Neanurinae, and Podurinae.

Proc. U. S. Nat. Mus., 50, No. 2134, May 31, 1916, pp. 477-525, pls. 7-25.

Tables for the groups and for the species are given and cotypes of 10 of the new species described are in the U. S. National Museum.

GAHAN, A. B. A revision of the North American Ichneumon-flies of the subfamily Opiinae.

Proc. U. S. Nat. Mus., 49, No. 2095, Aug. 23, 1915, pp. 63-95, pls. 34, 35.

Tables for the genera and species and 1 new genus and 19 new species described.

—— (See also under S. A. Rohwer.)

GIRAULT, A. A. A new genus of chalcid Hymenoptera.

Ent. News, 26, July, 1915, p. 325.

The genus *Hypochalcis* is erected for *Chalcis modestus*.

—— A new genus and species of Trichogrammatidae from the Philippines.

Can. Ent., 47, No. 7, July 16, 1915, pp. 233, 234.

—— A new species of Pseudomphale from Chile.

Can. Ent., 47, No. 7, July 16, 1915, pp. 234, 235.

—— Four new Encyrtids from Sicily and the Philippines.

The Entomologist, 48, No. 627, Aug., 1915, pp. 184-186.

—— Notes on some chalcidoid Hymenoptera from Java.

Ent. News, 26, Oct., 1915, p. 365.

—— Notes on North American Mymaridae and Trichogrammatidae (Hym.).

Ent. News, 27, No. 1, Jan., 1916, pp. 4-8.

Describes 1 new genus, 6 new species, and 3 new varieties.

GIRAULT, A. A. Three new species of *Cocophagus*, family Encyrtidae (Hym.).

Ent. News, 27, No. 1, Jan., 1916, pp. 33-35.

—— Two new Mymaridae from the eastern United States (Hym.).

Ent. News, 27, No. 2, Feb., 1916, pp. 69, 70.

Ooctonus americanus and *O. silvensis* are described.

—— Description of eleven new species of chalcid flies.

Can. Ent., 48, No. 3, Mar., 1916, pp. 100-103, and No. 4, Apr., 1916, pp. 113-116, pl. 7.

Includes also descriptions of 2 new genera.

—— A new genus of Eulophidae from the United States.

Ent. News, 27, No. 4, Apr., 1916, pp. 152-154.

Describes *Pseudolynx*, new genus, and *P. flavimaculatus*, new species.

—— Descriptiones Hymenopterorum chalcidoidicorum variorum cum observationibus III.

Ent. News, 27, No. 5, May, 1916, pp. 223-228.

Describes 7 new species, and 1 new variety, with notes on various other species.

—— A new *Phanurus* from the United States, with notes on allied species.

Can. Ent., 48, No. 5, May 15, 1916, pp. 149, 150.

HEINRICH, CARL. Two new species of *Coleophora*.

Insector Insectiv. Menstruus, 3, Nos. 11, 12, Dec. 31, 1915, pp. 143, 144.

Describes *Coleophora lentella* and *C. gaylussaciella*.

HOWARD, LELAND O., HARRISON G. DYAR, and FREDERICK KNAB. The mosquitoes of North and Central America and the West Indies.

Carnegie Inst. of Washington, Pub. No. 159, 3, Pt. 1, Oct. 1, 1915, pp. i-vi, 1-523, 1 fig.

In this volume, which is Part I of the Systematic Description of the Monograph of Mosquitoes, 1 new subgenus and 13 new species are described.

HUNTER, W. D. A new species of *Cephenomyia* from the United States.

Proc. Ent. Soc. Washington, 17, No. 4, Dec. 31, 1915, pp. 160-173, pl. 16.

Describes *C. pratti* from the state of Texas.

JENNINGS, ALLAN H. Two new species of *Simulium* from tropical America.

Proc. Ent. Soc. Washington, 17, No. 4, Dec. 31, 1915, pp. 199, 200.

Describes *S. samboni* from Panama and *S. antillarum* from the Danish West Indies.

KENNEDY, CLARENCE HAMILTON. Notes on the life history and ecology of the dragonflies (Odonata) of Washington and Oregon.

Proc. U. S. Nat. Mus., 49, No. 2107, July 28, 1915, pp. 250-345, figs. 1-201.

Describes *Argia emma*.

KNAB, FREDERICK. A new *Simulium* from Texas.

Insecutor Insectiv. Menstruus, 3, Nos. 5-7, July 20, 1915, pp. 77, 78.

Describes *S. mediovirgatum*.

—— Commensalism in *Desmometopa*.

Proc. Ent. Soc. Washington, 17, No. 3, Sept. 18, 1915, pp. 117-121.

Gives an account of what is known of commensalism in this genus.

—— Some new neotropical *Simuliidae*.

Bull. Ent. Research, 6, Pt. 3, Dec., 1915, pp. 279-282.

Describes 3 new species, paratypes of which are in the U. S. National Museum.

—— New *Ceratopogoninae* from Peru.

Insecutor Insectiv. Menstruus, 3, Nos. 8-10, Dec. 11, 1915, pp. 109-111.

Describes 2 new species, types of which are in the U. S. National Museum.

—— A new American fruit-fly.

Insecutor Insectiv. Menstruus, 3, Nos. 11-12, Dec. 31, 1915, p. 146.

Describes *Anastrepha sylvicola* from Trinidad.

KNAB, FREDERICK. Notes on Peruvian mosquitoes and mosquito literature.

Rep. First Expedition to South America, 1913. *Harvard School of Tropical Medicine*, 1915, pp. 212-217.

Contains notes on various species of mosquitoes found in Peru.

—— Four European *Diptera* established in North America.

Insecutor Insectiv. Menstruus, 4, Nos. 1-3, Mar. 31, 1916, pp. 1-4.

—— Dispersal of some *Ortaliidae*.

Bull. Brooklyn Ent. Soc., 11, No. 2, Apr., 1916, pp. 40-46, 3 figs.

Describes 1 new species and contains notes on various other species.

—— (See also under Harrison G. Dyar.)

—— (See also under Leland O. Howard.)

—— and R. C. SHANNON. *Tanypeziidae* in the United States.

Insecutor Insectiv. Menstruus, 4, Nos. 1-3, Mar. 31, 1916, pp. 33-36.

Describes *Tanypeza luteipennis* and *T. picticornis*.

KOTINSKY, JACOB. The Bermuda grass *Odonaspis*.

Proc. Ent. Soc. Washington, 17, No. 3, Sept. 18, 1915, pp. 101-104, figs. 1, 2.

Describes *O. ruthae*.

MALLOCH, J. R. Notes on the flies of the genus *Pseudodinia*, with description of a new species.

Proc. U. S. Nat. Mus., 49, No. 2101, July 16, 1915, pp. 151, 152.

Describes *P. polita*.

—— Flies of the genus *Agromyza*, related to *Agromyza virens*.

Proc. U. S. Nat. Mus., 49, No. 2097, July 24, 1915, pp. 103-108, pl. 38, fig. 12.

Describes 5 new species and contains notes on other species.

CRUSTACEANS.

DODDS, G. S. Descriptions of two new species of Entomostraca from Colorado, with notes on other species.

Proc. U. S. Nat. Mus., 49,
No. 2096, Aug. 13, 1915,
pp. 97-102, figs. 1-10.

Enumerates species collected by the author during four summers spent at Tolland, Colo., and describes as new *Streptocephalus coloradensis* and *Diaptomus arapahoensis*. The types are in the U. S. National Museum.

FAXON, WALTER. Notes on the crayfishes in the United States National Museum and the Museum of Comparative Zoölogy with descriptions of new species and subspecies to which is appended a catalogue of the known species and subspecies.

Memoirs Mus. Comp. Zool.,
40, No. 8, July, 1914, pp.
351-427, pls. 1-13.

Presents a critical study of the crayfishes of the U. S. National Museum and Museum of Comparative Zoölogy collections and describes as new 3 species and 9 subspecies. The National Museum has the following types: *Astacus nigrescens fortis*, *A. gambelii connectens*, *A. pallipes italicus*, *Cambarus spinosus guicini*, *C. bartonii carinirostris* (Hay mss.), *C. b. asperimanus*; and the Museum of Comparative Zoölogy the following: *Parastacus araucanicus*, *Cambarus clarkii paeninsulanus*, *C. virens-viridis*, *C. validus*, *C. bartonii laevis*, *C. graysoni*.

HANSEN, H. J. The Euphausiacea crustaceans of the "Albatross" expedition to the Philippines. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 33.]

Proc. U. S. Nat. Mus., 49,
No. 2129, Jan. 14, 1916,
pp. 635-654, pl. 83.

Discusses briefly the geographical distribution of the Euphausiacea of the Philippines as compared with that of the Schizopoda from the Dutch Siboga expedition in the seas and straits of the Indian Archipelago. Notes the enormous number of Euphausiacea present with reference to its potential value as fish food. Lists the species with the localities arranged according to latitude north, beginning with the most northern locality, and describes as new *Euphausia fallax* and

HANSEN, H. J.—Continued.

Nematocella lobata. This collection of Euphausiacea, including the 2 type specimens, is in the U. S. National Museum.

MARSH, C. DWIGHT. A new crustacean, *Diaptomus virginienensis*, and a description of *Diaptomus tyrelli* Poppe.

Proc. U. S. Nat. Mus., 49,
No. 2117, Dec. 11, 1915,
pp. 457-462, figs. 1-7.

Publishes modifications of the diagnosis of *Diaptomus tyrelli* Poppe, resultant from the study of specimens from new localities and describes as new *D. virginienensis*. The type is in the U. S. National Museum.

PEARSE, A. S. An account of the crustacea collected by the Walker Expedition to Santa Marta, Colombia.

Proc. U. S. Nat. Mus., 49,
No. 2123, Dec. 23, 1915,
pp. 531-556, pls. 70-73,
figs. 1-9.

Presents a critical study of the cardinological fauna of this hitherto little explored region, discusses the habitats, with annotations on the ecology of the group; presents concisely the geographical affinities of the crustaceans of the Santa Marta region, enumerates the species collected and describes as new *Cubaris brevispinis*, *Minea*, n. g., *M. ruthveni* (holotype), *Sphaeronicus gaigei*, *S. colombiensis*, *Ligyda richardsonae*. The holotypes are in the museum of the University of Michigan, and a series of paratypes are in the U. S. National Museum.

RATHBUN, MARY J. *Cymopolia* versus *Palicus*.

Proc. Biol. Soc. Washington,
28, Nov. 29, 1915, p. 180.

A note on the genus *Cymopolia* which is restored to validity in place of *Palicus*.

— New species of crabs of the families Inachidæ and Parthenopidæ. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 34.]

Proc. U. S. Nat. Mus., 50,
No. 2135, May 31, 1916,
pp. 527-550.

The third of a series of papers describing new crabs obtained in Philippine and adjacent waters. The fol-

RATHBUN, MARY J.—Continued.

lowing new species are described: *Achaeus villosus*, *Platymata bartacki*, (*P. alcocki*), *P. remifera*, *P. Ambriata*, *Cyrtomata horrida*, *C. echinata*, *Achaeopsis sulucensis*, *Peltinia sublimis*, *Antilimbina gilloloensis*, *Pugettia mindanocensis*, *P. leytenis*, *Sphenocarcinus hazonicus*, *S. auritus*, *S. nodosus*, *Hyastenus trispinosus*, *H. auctus*, *H. tuberculatus*, *H. orbis*, *H. biformis*, *H. fraterculus*, *H. scrobiculatus*, *H. tinak-tensis*, *Chorilia sphenocarcinoides*, *Naxioides rombloni*, *Phalangipus filiformis*, *P. retusus*, *maja sulucensis*, *M. linapacanensis*, *M. bisarmata*, *Leptomithrax sinensis*, *Parthenope (Rhinolambus) rudis*, *P. (Pseudolambus) parva*, *Cryptopodia angusta*. All of the type specimens except that of *Platymata alcocki* are in the collections of the U. S. National Museum.

RATHBUN, MARY J. Description of three species of crabs (*Ossachila*) from the eastern coast of North America.

Proc. U. S. Nat. Mus., 50, No. 2138, May 31, 1916, pp. 647-652, pl. 36.

Presents a critical study of the specimens of so-called *Ossachila tuberosa* in collections of the U. S. National Museum, the Museum of Comparative Zoölogy, and the Museum of the State University of Iowa, and establishes the presence of 3 species instead of 1 in the area extending from Cape Hatteras, N. C., to the Gulf of Mexico and the West Indies. *O. tuberosa* Stimpson is redescribed and figured, and *O. antillensis* and *O. semilevis* are listed as new. Both types are in the U. S. National Museum.

ECHINODERMS.

CLARK, AUSTIN H. The distribution of the recent crinoids on the coasts of Australia.

Internationale Revue der gesamten Hydrobiologie und Hydrographie, 1915, pp. 222-234.

A detailed account of the distribution of the three faunal elements which together make up the Australian crinoid fauna.

— A study of the recent crinoids which are congeneric with fossil species.

Amer. Journ. Sci., 40, Art. 5, July, 1915, pp. 60-66.

The geographical, thermal and bathymetrical distribution of the recent crinoids congeneric with fossil species is discussed in detail.

— The relation between the maximum and the average bathymetric range, and the mean and the average depth of habitat, in the subfamilies and higher groups of recent crinoids.

Amer. Journ. Sci., 40, Art. 6, July, 1915, pp. 67-74.

The average bathymetrical range of a crinoid family is approximately the same as the average depth inhabited. As a rule the more specialized families have small, the less specialized large, bathymetric ranges. The thermal range increases with specialization. The more specialized the group the less the average depth inhabited by it.

CLARK, AUSTIN H. A phylogenetic study of the recent crinoids, with special reference to the question of specialization through the partial or complete suppression of structural characters.

Smithsonian Misc. Coll., 65, No. 10, Aug. 19, 1915, pp. 1-67.

The characters used in differentiating the groups of recent crinoids are arranged in contrasting pairs, the more primitive element of each pair being numbered 1, and the more specialized 2; the families are then arranged in each contrasting pair according to the occurrence of character 1 or character 2. This gives a mathematical basis for the determination of the relative phylogenetical status of each family. In each contrasting pair the more specialized character is found to differ from the more generalized in the partial or complete suppression of some feature.

— A study of asymmetry as developed in the genera and families of recent crinoids.

Amer. Naturalist, 49, Sept., 1915, pp. 521-546.

Asymmetry in the recent crinoids is chiefly developed under (1) internal unfavorable conditions, induced by incipient phylogenetical degeneration through type-senescence, as in the *Plicatocrinidae*, which in the recent seas represent the almost exclusively palaeosoid *Inadunata*; and (2) exter-

CLARK, AUSTIN H.—Continued.

nal unfavorable conditions, taking the form of (a) phylogenetically excessive cold, which, to cite one example, appears to be the determining factor in the asymmetry of the genus *Promachocrinus*, or of (b) phylogenetically excessive warmth, which appears to be the determining factor in the asymmetry of the family Comasteridae.

—— The first New Zealand crinoid.

Proc. Biol. Soc. Washington,
29, Feb. 24, 1916, p. 48.

Description of *Comanthus trichoptera benhami*, the first crinoid known from New Zealand. Type specimen is in the U. S. National Museum.

—— Identification of a supposedly anomalous echinoderm.

Proc. Biol. Soc. Washington,
29, Feb. 24, 1916, pp. 49,
50.

A curious organism described by Mr. H. L. Clark in 1902 and supposed by him to be a holothurian related to *Spherothuria* is shown to be merely a detached cyst from the arm of a *Bristlinga*. The specimen is in the U. S. National Museum.

—— Seven new genera of echinoderms.

Journ. Washington Acad. Sci., 6, No. 5, Mar. 4, 1916, pp. 115-122.

Describes 4 new genera of crinoids and 3 new genera of starfishes, as follows: Crinoids: *Comatonia* (Genotype *Actinometra cristata* Hartlaub, 1912); *Austrometra* (Genotype *Oligometra thetidis* H. L. Clark, 1909); *Cotylometra* (Genotype *Oligometra gracilicirra* A. H. Clark, 1908); *Daidalometra* (Genotype *Antedon hana* A. H. Clark, 1907). Starfishes: *Mariaster* (Genotype *Johannaster giganteus* Goto, 1914); *Pseudonepanthia* (Genotype *Pseudonepanthia gotoi*, sp. nov.); *Glabraster* (Genotype *Porania magellanica* Studer, 1876). Also the new species of starfish, *Pseudonepanthia gotoi*, the specimen of which is in the U. S. National Museum.

—— A new starfish (*Lydiaster americanus*) from the Gulf of Mexico, representing a section of the subfamily Goniasterinae hitherto known only from the Indo-Pacific region.

Journ. Washington Acad. Sci., 6, No. 6, Mar. 19, 1916, pp. 141-144.

CLARK, AUSTIN H.—Continued.

Description of *Lydiaster americanus*, a starfish representing a genus hitherto known only from off southwestern Ceylon.

—— Six new starfishes from the Gulf of California and adjacent waters.

Proc. Biol. Soc. Washington,
29, Apr. 4, 1916,
pp. 51-62.

Describes the new genera *Seraster* and *Cyllaster*, and the following new species: *Sideriaster canaliculata*, *Seraster insignis*, *Anthena mexicana*, *Narcissia gracilis*, *Echinaster parvipinus* and *Cyllaster seminuda*. The types are in the U. S. National Museum.

—— Three interesting additions to the crinoid fauna of Sagami Bay and Suruga Gulf, Japan.

Proc. Biol. Soc. Washington,
29, June 6, 1916,
pp. 105-108.

Describes 3 new crinoids, one representing a genus and the other two specific groups in their respective genera, hitherto unknown from Japan. The new species are: *Comantheria intermedia*, *Dichrometra doylei*, *Prometra owstoni*. The types are in the U. S. National Museum.

FISHER, WALTER K. Notes on the systematic position of certain genera and higher groups of starfishes.

Proc. Biol. Soc. Washington,
29, Jan. 26, 1916,
pp. 1-5.

The family Gonioplectinidae is revised, and subdivided into the Ctenodiscinae (*Ctenodiscus* and ?*Pectinodiscus*) and Gonioplectininae (*Gonioplecten* and *Prionaster*); the genus *Radiaster* Perrier (= *Mimaster* Sladen) is made the type of a new family Radiastriidae; including *Radiaster* and *Mimastrella*, gen. nov. (genotype *Mimaster cognatus* Sladen); the genera *Solaster* and *Crossaster* are found to be readily distinguishable; the genus *Craspidaster* is assigned to a new subfamily, Craspidasterinae, in the family Astropectinidae.

—— New East Indian starfishes.

Proc. Biol. Soc. Washington,
29, Feb. 24, 1916, pp.
27-35.

A continuation of the author's report on the starfishes collected by the U. S. Fisheries steamer *Albatross* during the Philippine Expedition, 1907-1910. The

FISHER, WALTER K.—Continued.

species herein published will be fully described and figured in the final report. Describes as new 1 genus, *Bythioplus*, 2 subgenera, *Craterobristinga* and *Stegnobristinga*, 15 species, *Asterina cristata*, *Pteraster corynetes*, *Hymenaster rhodopeplus*, *H. bartachi*, *Zoroaster ophiactis*, *Z. microporus*, *Bythioplus acanthinus*, *Odinka penicbra*, *Bristinga trachydica*, *B. mimica*, *B. moluccana*, *B. acanthogenys*, *B. (Craterobristinga) eucoryne*, *B. (Stegnobristinga) placoderma*, *Freyella spatulifera*, and 3 subspecies, *Pteraster oboerus myonotus*, *Diploperaster multipes palagialis*, *Zoroaster carinatus philippinensis*. The types are in the U. S. National Museum.

OHSHIMA, HIROSHI. The Synaptidæ of Japan.

Annotationes Zoologicae Japonenses, 8, 1914, pp. 467-482.

Presents notes on all synaptidæ known to occur in Japan, including notices, in manuscript, of 6 new species and an old one collected by the *Albatross*, subsequently described and published in *Proc. U. S. Nat. Mus.*, 48, No. 2073, Feb. 11, 1914, pp. 213-291, pls. 8-11. The new species are *Protankyra kagojimensis*, *Chiridotia discolor*, *C. albatrossii*, *Tamlogyrus cidaridis*, *Toxodora pacifica*, *Myriotrochus mitrururi*. The old species is *Myriotrochus rinkii* Steenstrup.

NEMATHELMINTHES.**HALL, MAURICE C. Nematode parasites of mammals of the orders Rodentia, Lagomorpha, and Hyracoidea.**

Proc. U. S. Nat. Mus., 50, No. 2131, May 13, 1916, pp. 1-258, pl. 1, figs. 1-290.

New genera: *Hepaticola*, *Heterozygnema*, *Seuratoma*, *Ransomus*, *Chellinema*, *Warrenius*, *Heligmosomoides*, *Rictularioides*. New species: *Heterozygnema cucullatum*, *Oxyuris sciuri*, *O. triradiata*, *Ransomus rodentorum*, *Trichostrongylus delicatus*, *Nematodirus neotoma*, *Chellinema bifurcatum*, *Warrenius quadrivittati*, *Heligmosomoides linatovi*, *Heligmosomum vexillatum*, *Rictularia coloradensis*, *Filaria linatovi*, *Microfilaria plimмери*, *Protostrongylus ascaroidea*. Type material of all new species is in the U. S. National Museum.

RANSOM, BRAYTON H., and MAURICE C. HALL. The life history of Gongylonema scutatum.

Journ. Parasitol., Urbana, Ill., 2, No. 2, Dec., 1915, pp. 80-86.

VAN CLEAVE, H. J. Acanthocephala in North American Amphibia.

Journ. Parasitol., Urbana, Ill., 1, No. 4, June, 1915, pp. 175-178, 1 fig.

WARD, HENRY B. Gongylonema in the rôle of a human parasite.

Journ. Parasitol., Urbana, Ill., 2, No. 3, Mar., 1916, pp. 119-125, 1 pl.

PLATYHELMINTHES.**FOSTER, WINTHROP D. Two new cases of polyradiate cestodes, with a summary of the cases already known.**

Journ. Parasitol., Urbana, Ill., 2, No. 1, Sept., 1915, pp. 7-19, figs. 1-4.

HALL, MAURICE C. Hasstilesia tricolor (Stiles and Hassall, 1894), a common parasite of rabbits in the United States.

Journ. Amer. Vet. Med. Assoc., 48 (n. s.), Vol. 1, No. 4, Jan., 1916, pp. 453-456.

Describes 1 new genus: *Hasstilesia*.

RANSOM, BRAYTON H. Third American case of Dipylidium caninum in man.

Journ. Parasitol., Urbana, Ill., 2, No. 2, Dec., 1915, p. 93.

Read before the 27th meeting of the Helminthological Society of Washington, Oct. 22, 1915.

COELENTERATES.

BIGELOW, HENRY B. *Eperetmus*, a new genus of Trachomedusae.

Proc. U. S. Nat. Mus., 49, No. 2114, Aug. 31, 1915, pp. 399-404, pl. 59.

This paper, based on Museum material, discusses the relationship of the

BIGELOW, HENRY B.—Continued.

genera at present grouped under the family Petasidae, and describes as new the genus *Eperetmus*, and the species *E. typus* (holotype).

PROTOZOANS.

CRAWLEY, HOWARD. Note on the stage of *Piroplasma bigeminum* which occurs in the cattle tick, *Margaropus annulatus*.

Journ. Parasitol., Urbana, Ill., 2, No. 2, Dec., 1915, pp. 87-92, figs. A-D.

—— The sexual evolution of *Sarcocystis muris*.

Proc. Acad. Nat. Sci. Phila., 68, Jan., 1916, pp. 2-43, pls. 1-5.

RANSOM, BRAYTON H. A case of *Paragonimus westermanii* or *P. kellicotti* in a cat.

Journ. Parasitol., Urbana, Ill., 1, No. 4, June, 1915, p. 202.

Secretary's abstract of remarks before 26th meeting of the Helminthological Society of Washington, Apr. 22, 1915.

BOTANY.

BALL, CARLETON R. Notes on North American willows, II.

Botan. Gaz., 60, No. 1, July 16, 1915, pp. 45-54, figs. 1-3.

Based largely upon material in the National Herbarium.

BRITTON, N. L., and J. N. ROSE. The relationships and distribution of the Cactaceae.

Carnegie Inst. of Washington, Year Book No. 14, 1915, pp. 102, 103.

CHASE, AGNES. Impressions of the ferns of Porto Rico.

Amer. Fern Journ., 5, No. 3, July-Sept., 1915, pp. 79-83. (Issued July 10, 1915.)

—— The structure of the spikelet of *Aphanelytrum*.

Botan. Gaz., 61, No. 4, Apr., 1916, pp. 340-343, fig. 1.

—— (See also under A. S. Hitchcock.)

COOK, O. F. Quichua names of sweet potatoes.

Journ. Washington Acad. Sci., 6, No. 4, Feb. 19, 1916, pp. 86-90.

—— Determining types of genera.

Journ. Washington Acad. Sci., 6, No. 6, Mar. 19, 1916, pp. 137-140.

COOK, O. F. Agriculture and native vegetation in Peru.

Journ. Washington Acad. Sci., 6, No. 10, May 19, 1916, pp. 284-293, figs. 1, 2.

—— Staircase farms of the ancients.

Nat. Geog. Mag., 29, No. 5, May, 1916, pp. 474-534, illustrated.

—— Branching and flowering habits of cacao and patashte.

Contr. U. S. Nat. Herb., 17, Pt. 8, June 28, 1916, pp. 609-625, pls. 44-54.

—— and ROBERT CARTER COOK. Polynesian names of sweet potatoes.

Journ. Washington Acad. Sci., 6, No. 11, June 4, 1916, pp. 339-347.

COVILLE, FREDERICK V. *Grossularia marcescens*.

Proc. Biol. Soc. Washington, 28, Nov. 29, 1915, p. 181.

—— Directions for blueberry culture, 1916.

Bull. U. S. Dept. Agr., No. 334, Dec. 28, 1915, pp. 1-16, pls. 1-17.

GOLDMAN, EDWARD A. Plant records of an expedition to Lower California.

Contr. U. S. Nat. Herb., 16,
Pt. 14, Feb. 10, 1916, pp.
309-371, map, pls. 104-
133.

Includes descriptions of 3 new oaks,
Quercus brandegei, *Q. idonea*, and *Q. devia*.

GRIGGS, ROBERT F. Some new species and varieties of *Bihai*.

Bull. Torrey Bot. Club, 42,
No. 6, June (16), 1915,
pp. 315-330, pl. 19, figs.
1-6.

The types of three of the new species are in the National Herbarium.

HITCHCOCK, ALBERT SPEAR. New or noteworthy grasses.

Amer. Journ. Bot., 2, No.
6, June, 1915, pp. 299-
310.

——— Note on a New Zealand grass.

Proc. Biol. Soc. Washington, 28, Nov. 29, 1915,
p. 182.

——— Poaceae (pars).

North Amer. Flora, 17, Pt.
3, Dec. 20, 1915, pp.
198-288.

——— The scope and relations of taxonomic botany.

Science (n. s.), 43, No. 1106,
Mar. 10, 1916, pp. 331-
342.

——— Notes on some foreign grasses.

Proc. Biol. Soc. Washington, 29, June 6, 1916, p.
128.

——— and AGNES CHASE. Tropical North American species of *Panicum*.

Contr. U. S. Nat. Herb., 17,
Pt. 6, July 24, 1915, pp.
459-539, figs. 11-149.

Includes descriptions of 9 new species of *Panicum* from tropical America.

McATEE, W. L. The winter flora of Muskeget Island, Massachusetts.

Rhodora, 18, No. 209, May 4,
1916, pp. 93-99.

The paper is based upon a collection of plants in the National Herbarium.

MACKENZIE, KENNETH KENT. Notes on *Carex*—IX.

Bull. Torrey Bot. Club, 42,
No. 11, Nov., 1915, pp.
603-621. (Issued Dec.
11, 1915.)

The type of a new species, *Carex egglestonii*, is in the National Herbarium.

MAXON, WILLIAM R. Studies of tropical American ferns—No. 6.

Contr. U. S. Nat. Herb., 17,
Pt. 7, May 23, 1916, pp.
541-608, pls. 32-43.

Relates chiefly to three widely misunderstood groups of *Polypodium*, typified by *P. trichomanoides*, *P. furfuraceum*, and *P. squamatum*, respectively, the two latter groups consisting of species with more or less scaly fronds. In these and other groups of *Polypodium* 16 species are described as new, and many others are redescribed or reinstated. Critical notes are included also on several species of *Notholaena*, 2 being described as new.

MERRILL, E. D. A simple method of making carbon leaf impressions.

Torrey, 15, No. 8, Aug. 30,
1915, pp. 175-181, figs.
1-3.

——— On the application of the generic name *Nauclea* of Linnaeus.

Journ. Washington Acad. Sci., 5, No. 15, Sept. 19,
1915, pp. 530-542.

Proposes the new generic name *Neonauclea* for *Nauclea* of Korthals, Benthams and Hooker, and other later authors (not Linnaeus 1762), with transfer of 46 species from *Nauclea*. The genus *Nauclea* as restricted consists of about 25 species, extending from tropical Africa through tropical Asia and Malaya to Australia and Polynesia. A majority of these are here first transferred to *Nauclea*, having been recognized commonly under *Sarcocephalus*.

——— The systematic position of the "rain tree," *Pithecolobium saman*.

Journ. Washington Acad. Sci., 6, No. 2, Jan. 19,
1916, pp. 42-48.

Describes the new genus *Samanea*, with *S. saman* (*Mimosa saman* Jacq.) as its type.

NORTON, J. B. The eastern and the western migrations of *Smilax* into North America.

Journ. Washington Acad. Sci., 6, No. 10, May 19, 1916, pp. 281-283, fig. 1.

PIPER, C. V. Notes on *Quamasia* with a description of a new species.

Proc. Biol. Soc. Washington, 29, Apr. 4, 1916, pp. 77-81.

The type of a new species, *Quamasia walpolei*, is in the National Herbarium.

PITTIER, HENRY. Some new caesalpinaceous trees of Panama.

Journ. Washington Acad. Sci., 5, No. 13, July 19, 1915, pp. 468-474.

Four new species of *Centrolobium*, *Peltogyne*, and *Dimorphandra* are described.

— On the characters and relationships of the genus *Monopteryx* Spruce.

Bull. Torrey Bot. Club, 42, No. 11, Nov., 1915, pp. 623-627, figs. 1, 2. (Issued Dec. 11, 1915.)

A new species, *Monopteryx jahnii*, is described.

— New or noteworthy plants from Colombia and Central America—5.

Contr. U. S. Nat. Herb., 18, Pt. 4, Mar. 3, 1916, pp. 143-171, pls. 57-80, figs. 88-97.

Contains a full discussion of the genera *Brownea* and *Browneopsis*; includes also a comparison of *Bombar* and *Pachira*, with description of an intermediate new genus, *Bombacopsis*, with 2 species.

— *Inophloeum*, a new genus of the mulberry family.

Journ. Washington Acad. Sci., 6, No. 5, Mar. 4, 1916, pp. 112-114.

Describes this new genus from Panama, based on *Olmiaea armata* Miquel.

ROSE, J. N. Exploration in western South America.

Journ. N. Y. Bot. Gard., 16, No. 188, Aug., 1915, pp. 173-174.

— Edward Lee Greene.

Botan. Gaz., 61, No. 1, Jan. 15, 1916, pp. 70-72, 1 fig.

ROSE, J. N. Recent explorations in the cactus deserts of South America.

Proc. Nat. Acad. Sci., 2, No. 2, Feb. 15, 1916, pp. 73, 74.

— (See also under N. L. Britton.)

ROSEN, HARRY R. The development of the *Phylloxera vasatrix* leaf gall.

Science (n. s.), 43, No. 1102, Feb. 11, 1916, pp. 216, 217.

SAFFORD, WILLIAM EDWIN. An Aztec narcotic (*Lophophora williamsii*).

Journ. of Heredity, 6, No. 7, July, 1915, pp. 291-311, with 11 illustrations.

— *Eysenhardtia polystachya*, the source of the true *Lignum nephriticum mexicanum*.

Journ. Washington Acad. Sci., 5, No. 14, Aug. 19, 1915, pp. 503-517, figs. 1, 2.

— A remarkable new *Eysenhardtia* from the west coast of Mexico.

Journ. Washington Acad. Sci., 6, No. 6, Mar. 19, 1916, pp. 133-135, 1 fig.

Describes the new species *Eysenhardtia olivacea*, from Guerrerro, Mexico.

— *Desmopesis*, a new genus of Annonaceae.

Bull. Torrey Bot. Club, 43, No. 4, Apr., 1916, pp. 183-193, pls. 7-9, 1 fig. (Issued April, 1916.)

Describes the annonaceous genus *Desmopesis*, with 5 species, all from tropical America, 2 being described as new. The type species is *D. panamensis* (*Unona panamensis* Robinson).

— *Rolliniopsis*, a new genus of Annonaceae from Brazil.

Journ. Washington Acad. Sci., 6, No. 8, Apr. 19, 1916, pp. 197-204, figs. 1, 2.

Describes the new genus *Rolliniopsis*, based upon *R. discreta*, sp. nov., from Brazil. Of the 3 other species recognized 1 is new, and 2 are transferred from *Rollinia*. All are natives of Brazil.

SAFFORD, WILLIAM EDWIN. *Lignum ne-phriticum*—its history and an account of the remarkable fluorescence of its infusion.

Rep. Smithsonian Inst.,
1915 (June, 1916), pp.
271-298, pls. 1-7, figs.
1-7.

——— Proposed classification of the genus *Rollinia*, with descriptions of several new species.

Journ. Washington Acad. Sci., 6, No. 12, June 19, 1916, pp. 370-384, figs. 1-3.

Includes descriptions of 3 new species from Brazil, Costa Rica and Panama, respectively.

SMITH, JOHN DONNELL. Undescribed plants from Guatemala and other Central American republics. XXXIX.

Botan. Gaz., 61, No. 5, May 15, 1916, pp. 373-387.

Includes descriptions of 21 new species, as well as keys to the Central American species of *Episcia* and *Beaeria*.

STANDLEY, PAUL C. Vegetation of the Brazos Canyon, New Mexico.

Plant World, 18, No. 7, July, 1915, pp. 179-191, figs. 1-3.

——— A remarkable new geranium from Venezuela.

Journ. Washington Acad. Sci., 5, No. 17, Oct. 19, 1915, pp. 600-602.

——— Notes on *Orthopterygium huacui*.

Journ. Washington Acad. Sci., 5, No. 19, Nov. 19, 1915, pp. 628-631, 1 fig.

——— Hepaticae of New Mexico.

The Bryologist, 18, No. 6, Nov., 1915, pp. 81-83.

——— A new species of *Iresine* from the United States.

Proc. Biol. Soc. Washington, 28, Nov. 29, 1915, pp. 171-173.

——— The genus *Espeletia*.

Amer. Journ. Bot., 2, No. 9, Nov., 1915, pp. 468-486, pl. 17, figs. 1-6. (Issued Dec. 16, 1915.)

Includes descriptions of 6 new species.

STANDLEY, PAUL C. *Tidestromia*, a new generic name.

Journ. Washington Acad. Sci., 6, No. 3, Feb. 4, 1916, pp. 69, 70.

The generic name *Tidestromia* is proposed to replace *Cladothrix* Nuttall, a homonym.

——— Studies of tropical American phanerogams—No. 2.

Contr. U. S. Nat. Herb., 18, Pt. 3, Feb. 11, 1916, pp. 87-142.

Includes numerous changes of name and descriptions of new species, based chiefly upon material collected during the progress of the Smithsonian Biological Survey of the Panama Canal Zone.

——— Some ferns of Dutchess County, New York.

Amer. Fern Journ., 6, No. 1, Jan.-Mar., 1916, pp. 1-7.

——— A change of name for an Arizona mistletoe.

Proc. Biol. Soc. Washington, 29, Apr. 4, 1916, p. 86.

——— Comparative notes on the floras of New Mexico and Argentina.

Journ. Washington Acad. Sci., 6, No. 9, May 4, 1916, pp. 236-244.

——— Fungi of New Mexico.

Mycologia, 8, No. 3, May 27, 1916, pp. 142-177.

——— The ferns of Greene County, Missouri.

Amer. Fern Journ., 6, No. 2, Apr.-June, 1916, pp. 44-51.

——— (See also under E. O. Wooton.)

SWINGLE, WALTER T. *Microcitrus*, a new genus of Australian citrus fruits.

Journ. Washington Acad. Sci., 5, No. 16, Oct. 4, 1915, pp. 569-578, figs. 1-4.

Describes the new genus *Microcitrus*, with 4 species, all Australian, the type being *Citrus australasica* F. Muell.

SWINGLE, WALTER T. *Pamburus*, a new genus related to *Citrus*, from India.

Journ. Washington Acad. Sci., 6, No. 11, June 4, 1916, pp. 335-338.

Describes the new genus *Pamburus*, of southern India and Ceylon, and distinguishes it from *Atalantia*, *Paramignya*, and other related genera. The type and sole species is *Pamburus missionis* (*Limonia missionis* Wight).

WILLIAMS, R. S. Mosses from the west coast of South America.

Bull. Torrey Bot. Club, 42, No. 7, July, 1915, pp. 393-404, pls. 21-25.

The paper is an enumeration of the mosses obtained by Dr. and Mrs. J. N. Rose in Peru, Bolivia, and Chile in 1914. Ten new species are described,

WILLIAMS, R. S.—Continued.

including 2 which represent a new genus, *Pseudocrossidium* (type, *P. chilense*).

— Mosses of the Philippine and Hawaiian Islands collected by the late John B. Leiberger.

Bull. Torrey Bot. Club, 42, No. 10, Oct., 1915, pp. 571-577. (Issued Nov. 13, 1915.)

Based upon material in the National Herbarium; includes descriptions of 4 new species.

WOOTON, E. O., and PAUL C. STANDLEY. The ferns of New Mexico.

Amer. Fern Journ., 5, No. 3, July-Sept., 1915, pp. 65-78, pls. 5, 6.

GEOLOGY AND MINERALOGY.

GORDON, SAMUEL G. (See under Edgar T. Wherry.)

MATSON, GEORGE CHARLTON. The phosphate deposits of Florida.

Bull. U. S. Geol. Surv., No. 604, 1915, pp. 1-101, pls. 1-17, figs. 1, 2.

A thorough study of the phosphate deposits of Florida, dealing especially with the geologic and economic features.

MERRILL, GEORGE P. Notes on the composition and structure of the Indarch, Russia, meteoric stone.

Proc. U. S. Nat. Mus., 49, No. 2098, July 24, 1915, pp. 109-112, pl. 37.

Gives the results of a re-study and an analysis of the well-known Indarch meteorite, which fell on April 7, 1891. Its chief interest lies in the very detailed chemical analysis and the presence of the rare calcium sulphide, oldhamite.

— Report on some carbonic acid tests on the weathering of marbles and limestones.

Proc. U. S. Nat. Mus., 49, No. 2108, July 26, 1915, pp. 347-349.

Gives the results of two series of experiments, extending over periods of seventy and ninety days respectively, to determine the relative solubility of various commercial limestones and marbles in water through

MERRILL, GEORGE P.—Continued.

which carbonic acid was being passed, the idea being to reproduce on an exaggerated scale the actual conditions to which such stones would be exposed.

— Researches on the chemical and mineralogical composition of meteorites.

Proc. Nat. Acad. Sci., 1, July, 1915, pp. 429-431.

An abstract of the paper which follows.

— Report on researches on the chemical and mineralogical composition of meteorites, with especial reference to their minor constituents.

Memoirs Nat. Acad. Sci., 14, 1st memoir, 1916, pp. 1-29, 1 insert.

Contains the final report on researches indicated by the title, which were begun some years ago, and on which a preliminary report was published in 1913. Gives the results of over twenty detailed chemical analyses and microscopic studies, and demonstrates with seeming conclusiveness the presence in meteorites in small quantities of platinum, palladium, iridium, ruthenium, and vanadium, but fails to substantiate the reported occurrence of antimony, arsenic, gold, lead, tin, tungsten, uranium, and zinc. Barium and strontium, although looked for, were not discovered in the slightest traces. A table of fifty-nine selected analyses accompanies the paper.

MERRILL, GEORGE P. Handbook and descriptive catalogue of the meteorite collections in the United States National Museum.

Bull. U. S. Nat. Mus.,
No. 94, May 25, 1916,
pp. 1-x, 1-207, pls. 1-41.

Comprises not merely a catalogue of the collections, but also descriptive matter relative to the classification, mineral and chemical composition, structure, early records, and phenomena of falls of meteorites, as well as detailed accounts of the more important falls represented in the collections. It is a wide departure from other published catalogues, at home and abroad, both in the descriptive matter and in the character and abundance of the illustrations. In view of the fact that the Shepard collection had but recently passed by the will of the late Dr. C. U. Shepard into the custody of the Museum, a plate portrait of Prof. Shepard and a photograph of his collection were also inserted.

WHERRY, EDGAR T. A peculiar oolite from Bethlehem, Pennsylvania.

Proc. U. S. Nat. Mus., 49,
No. 2102, Aug. 13, 1915,
pp. 153-158, pls. 40, 41.

A description, with figures, of an oolite showing a remarkable division of the grains into light and dark portions.

—— The chemical composition of boronite.

Science (n. s.), 42, No. 1086,
Oct. 22, 1915, pp. 570,
571.

Discussion of a paper by Prof. A. F. Rogers in which a new interpretation of the evidence as to the formula of the mineral is suggested.

—— Notes on allophanite, fuchsite, and triphylite.

Proc. U. S. Nat. Mus., 49,
No. 2118, Nov. 27, 1915,
pp. 463-467.

WHERRY, EDGAR T.—Continued.

Mineralogical and chemical descriptions of new occurrences of these minerals.

—— A peculiar intergrowth of phosphate and silicate minerals.

Journ. Washington Acad. Sci., 6, No. 5, Mar. 4,
1916, pp. 105-108.

Description of a specimen sent to the Museum for identification, which proved to consist of colloidal vashegyite traversed by rhythmically precipitated laminae of a calcium aluminum silicate.

—— The lozenge-shaped cavities in the First Watchung Mountain zeolite deposits.

Journ. Washington Acad. Sci., 6, No. 7, Apr. 4,
1916, pp. 181-184.

Announcement of the important discovery that these cavities represent the mineral glauberite, which is indicated alike by the crystallographic, geologic, and genetic evidence.

—— and **SAMUEL G. GORDON.** An arrangement of minerals according to their occurrence.

Proc. Acad. Nat. Sci. Philadelphia, 67, Aug. 24,
1915, pp. 426-457.

Lists covering about 800 mineral species, arranged with reference to their genesis, associations, and occurrences.

WRIGHT, F. E. Note on the lithophysae in a specimen of obsidian from California.

Journ. Washington Acad. Sci., 6, No. 12, June 19,
1916, pp. 367-369.

Deals particularly with the question of the origin of the lithophysae and emphasis is placed on the pressure of the gases set free during the crystallization of the spherulites.

PALEONTOLOGY.

BASSLER, RAY S. Bibliographic index of American Ordovician and Silurian fossils.

Bull. U. S. Nat. Mus., No.
92, Nov. 1, 1915, 1, pp.
1-viii, 1-718; 2, pp. 1-iv,
719-1521, pls. 1-4.

BASSLER, RAY S.—Continued.

Gives the entire bibliography and synonymy of the hundreds of genera and thousands of species found in America in rocks of Ordovician and Silurian periods. In addition, the genotypes of the genera are given, and

BASSLER, RAY S.—Continued.

also the formation, the type locality and the known wider distribution of the species. In cases where the U. S. National Museum has the type material, this is noted and the catalogue numbers are cited. At the end of the bibliography proper is given an index of specific names and their generic combinations (pp. 1342-1406), a bibliographic classification and index of genera (1407-1440), faunal lists of American Ozarkian to lowest Helderbergian species (1441-1509), and a list of American Ordovician and Silurian formations showing their place in the geologic column (1511-1521). Finally, at the end of the work, are four very important correlation tables of the geologic divisions and their occurrence in the various basins of deposit.

BREGER, CARPEL LEVENTHAL. (See under Henry Shaler Williams.)

CLARK, WILLIAM BULLOCK, and MAYVILLE W. TWITCHELL. The Mesozoic and Cenozoic Echinodermata of the United States.

Monogr. U. S. Geol. Surv., 54, 1915, pp. 1-341, pls. 1-108.

A general systematic study of the Mesozoic and Cenozoic Echinodermata of the United States, including an extensive bibliography and descriptions of species, many of which are new.

COCKERELL, T. D. A. British fossil insects.

Proc. U. S. Nat. Mus., 49, No. 2119, Dec. 11, 1915, pp. 469-499, pls. 60-65.

Presents a summary of the knowledge of British fossil insects to date. Finds 1 new family, 11 new genera, and describes and figures 44 new species.

DALL, WILLIAM HEALEY. Note on the Oligocene of Tampa, Florida, the Panama Canal Zone, and the Antillean region.

Proc. Malacol. Soc. London, 12, Pt. 1, Mar. 20, 1916, pp. 38, 39.

Correction of some erroneous statements by M. Maurice Cossmann.

GILMORE, CHARLES W. A new restoration of *Stegosaurus*.

Proc. U. S. Nat. Mus., 49, No. 2110, Aug. 23, 1915, pp. 355-357, pl. 52, 1 fig.

GILMORE, CHARLES W.—Continued.

Describes briefly a new life restoration of *Stegosaurus stenops*, based on skeletal material in the collections of the U. S. National Museum.

— On the fore limb of *Allosaurus fragilis*.

Proc. U. S. Nat. Mus., 49, No. 2120, Nov. 27, 1915, pp. 501-513, figs. 1-7.

Describes for the first time a complete limb of *Allosaurus fragilis* Marsh. It is shown that the fore limb originally described and figured by Marsh as pertaining to the genus *Allosaurus* is in great part that of *Ceratosauros nasicornis* Marsh.

— Osteology of *Thescelosaurus*, an orthopodous dinosaur from the Lance formation of Wyoming.

Proc. U. S. Nat. Mus., 49, No. 2127, Dec. 23, 1915, pp. 591-616, pls. 79-82, figs. 1-20.

A detailed account of the osteological structure of *Thescelosaurus neglectus*, followed by a brief discussion of the classification and relationships of the genus. It is shown that *Thescelosaurus* has its closest affinities with *Hypselophodon* of the English Wealden. A life restoration, modeled by the author from the type specimen, is presented for the first time.

— Description of a new species of tortoise from the Jurassic of Utah.

Annals Carnegie Mus., 10, Nos. 1-2, Art. 1, Jan. 31, 1916, pp. 7-12, pls. 1, 2, figs. 1, 2.

Describes the new species *Glyptops utahensis*, the type specimen of which is in the Carnegie Museum, Pittsburgh, Pa.

— Description of two new species of fossil turtles, from the Lance formation of Wyoming.

Proc. U. S. Nat. Mus., 50, No. 2137, May 31, 1916, pp. 641-646, pls. 32-35.

Describes the two new species *Baena hayi* and *Aspideretes lancensis*.

HAY, OLIVER P. A contribution to the knowledge of the extinct sirenian *Desmostylus hesperus* Marsh.

Proc. U. S. Nat. Mus., 49, No. 2113, Aug. 31, 1915, pp. 381-397, pls. 56-58.

Reviews the history of the sirenian genus *Desmostylus* Marsh, which

HAY, OLIVER P.—Continued.

hitherto has been but imperfectly known, and discusses at length the data relative to the known material referred to the genus. A new family, Desmostyliidae, is proposed and defined, and the genus *Desmostylus* redefined, based on a nearly complete skull from the Miocene shales in the vicinity of Yaquina Bay, Oreg. The specimen is referred to the species *Desmostylus hesperus* Marsh, and is compared in detail with other known Sirenia, particularly a portion of a skull from Japan, described but not named by Yoshiwara and Iwasaka. The author considers the Japanese specimen as a distinct but closely related species, and gives it the name *Desmostylus watasei*.

KNOWLTON, F. H. Note on a recent discovery of fossil plants in the Morrison formation.

Journ. Wash. Acad. Sci., 6,
No. 7, Apr. 4, 1916, pp.
180, 181.

Notes the discovery of plants in the Morrison formation in the Bighorn Basin of Wyoming, and concludes that they indicate Cretaceous age.

— The flora of the Fox Hills sandstone.

Prof. Paper, U. S. Geol. Surv., 98-H, June 3, 1916, pp. 85-93, pls. 15-18.

Describes the first flora known from the Fox Hills sandstone. Thirteen forms are enumerated, all from the vicinity of Greeley, Colo.

RATHBUN, MARY J. Description of a new genus and species of fossil crab from Port Townsend, Washington.

Amer. Journ. Sci., 41, Apr., 1916, pp. 344-346, 1 fig.

Describes and figures the new genus and species *Branchioplax washingtoniana*. The specimen on which the description is based is the property of the Yale University Museum, but a plastotype is in the collections of the U. S. National Museum.

SHUFELDT, R. W. Fossil remains of the extinct cormorant *Phalacrocorax macropus* found in Montana.

The Auk, 32, No. 4, Oct., 1915, pp. 485-488, pl. 30.

Describes a fragmentary skeleton from Montana, the first recorded occurrence of this form outside the state of Oregon.

TWITCHELL, MAYVILLE W. (See under William Bullock Clark.)**WALCOTT, CHARLES D.** Cambrian geology and paleontology, III. No. 3.—Cambrian trilobites.

Smithsonian Misc. Colls.,
64, No. 3, Jan. 14, 1916,
pp. 157-258, pls. 24-38.

This second of the series on Cambrian geology and paleontology to bear this name; nine other papers on trilobites from the same series also listed. Describes 2 new families, 7 new genera, 47 new species, and 3 new varieties, besides 21 other species previously discussed. Appalachian localities are strongly represented. A marked feature is the description of 4 genera of the order Proparia, which, taken with the genus *Burlingia*, establish the existence of a strong group of the order in Cambrian time.

— Evidences of primitive life.

Rep. Smithsonian Inst.,
1915, Pub. 2380, 1916,
pp. 235-255, pls. 1-18,
1 fig.

A summary of Secretary Walcott's investigations and publications of the past ten or fifteen years, with special emphasis on certain important phases. Discusses pre-Cambrian Algonkian North America, fossil bacteria, Algonkian fossil algal remains, Cambrian sections, Cambrian faunas of China, the Middle Cambrian fauna of Burgess Pass, British Columbia, including holothurians, annelids, trilobites, etc. Cambrian Brachiolopoda, evolution of Cambrian Crustacea, and trilobites of the Lower, Middle, and Upper Cambrian. Designed as a review to answer the many inquiries constantly received as to the scope and character of the Secretary's work.

— Cambrian geology and paleontology, III. No. 4.—Relations between the Cambrian and pre-Cambrian formations in the vicinity of Helena, Montana.

Smithsonian Misc. Colls.,
64, No. 4, June 24, 1916,
pp. 259-301, pls. 39-44,
figs. 10-13.

A reply to the statements of Dr. August Rothpletz in his paper entitled "Die Fauna der Beltformation bei Helena in Montana," Munich, 1915, pp. 1-46, with 3 plates. The author reviews his own and others' investigations of this region, and shows by sections and plates the basis on which he

WALCOTT, CHARLES D.—Continued.

established extensive pre-Cambrian formations; he demonstrates by maps and other evidence that Dr. Rothpletz failed in his 4-days' investigation of the region to study actual pre-Cambrian strata because his attention was confined to Middle Cambrian formations and fauna which he mistook for the pre-Cambrian, hence his arguments have no foundation.

WILLIAMS, HENRY SHALER (assisted by **CARPEL LEVENTHAL BREGGER**). The fauna of the Chapman sandstone of Maine.

WILLIAMS, HENRY SHALER—Continued.

Prof. Paper, U. S. Geol. Surv., 89, 1916, pp. 1-347, pls. 1-27, figs. 1, 2.

Consists principally of a description of the fossils of the Chapman sandstone of Maine. The fauna is stated to have close affinities with the Helderbergian (Lower Devonian) fauna of New York, but carries more European types than the latter. This dissimilarity is believed to be due to slight differences in age and local conditions rather than to the fact that the faunas were derived from different sources.

MINERAL TECHNOLOGY.

GILBERT, CHESTER G. Sources of nitrogen compounds in the United States.

Smithsonian Inst. Special Pub. No. 2421, June 30, 1916, pp. 1-12.

— **Mineral-industry exhibits at the National Museum.**

Engineering and Mining Journ., 100, No. 12, Sept. 18, 1915, pp. 470-472, 1 fig.

MITMAN, C. W. Coal and coal products exhibited in the U. S. National Museum.

Mining World, 43, Oct. 23, 1915, p. 647.

— **Gypsum in the National Museum.**

Rock Products and Building Materials, 16, No. 5, June 7, 1915, p. 32, 1 fig.

OCEANOGRAPHY.

CLARK, AUSTIN H. On the temperature of the water below the 1000-fathom line between California and the Hawaiian Islands.

Journ. Washington Acad. Sci., 6, No. 7, Apr. 4, 1916, pp. 175-177.

CLARK, AUSTIN H.—Continued.

The temperature of the ocean floor is shown to increase slightly from California westward to the Hawaiian Islands.

EXPLORATIONS AND FIELD WORK.

HENDERSON, JOHN B. The cruise of the *Tomas Barrera*.

G. P. Putnam's Sons, New York & London, 1916, pp. 1-320, with illustrations and maps.

Narrative of a scientific expedition to western Cuba and the Colorado Reefs, with observations on the geology, fauna and flora of the region.

MARSHALL, WM. B., and C. R. SHOEMAKER. Biologic study of Chesapeake Bay.

Smithsonian Misc. Coll., 66, No. 3, pp. 53, 54.

Brief account of two cruises of the Fisheries steamer *Fish Hawk* in a

MARSHALL, WM. B., and C. R. SHOEMAKER—Continued.

hydrographic and biologic study of Chesapeake Bay, through which about 2,000 specimens of marine invertebrates were secured for the Museum.

SHOEMAKER, C. R. Expedition to St. Thomas, Danish West Indies.

Smithsonian Misc. Coll., 66, No. 3, pp. 54-57, figs. 69-72.

Brief account of an expedition to St. Thomas under the auspices of the Carnegie Institution of Washington to collect corals and other marine invertebrates, from which the Museum received about 5,000 specimens.

Explorations and field-work of the Smithsonian Institution in 1914.

Smithsonian Misc. Colls.,
65, No. 6, July 2, 1915,
pp. 1-95, pl. 1, figs. 1-89.

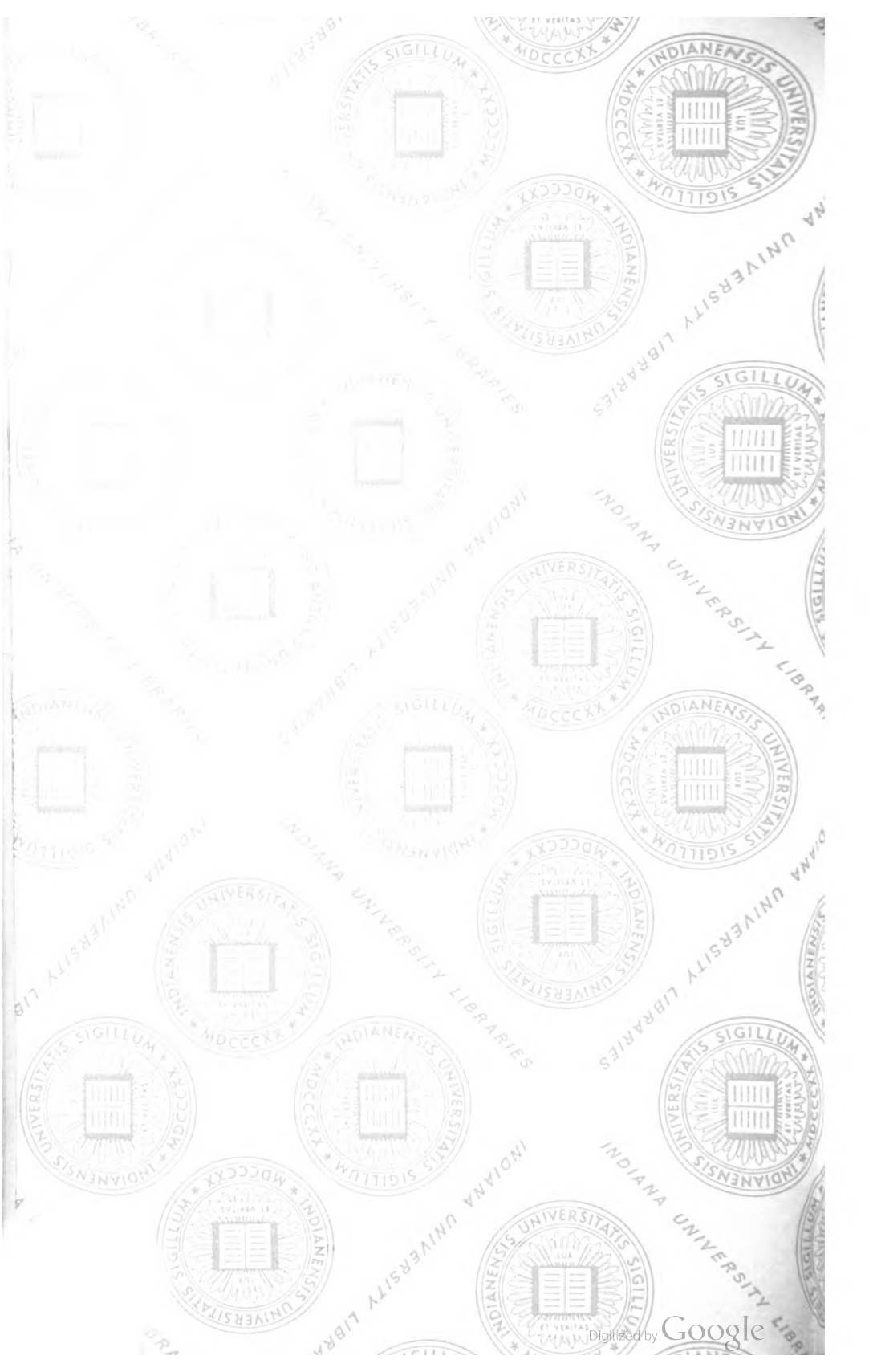
Notes on the following expeditions, from the most of which specimens were acquired for the Museum collections: Geological explorations in the Rocky Mountains; Studies in coastal plain stratigraphy and paleontology; Explorations for fossil echinoderms in western New York; Fossil collecting at the Cumberland cave deposit; Hunting vertebrate fossils in Montana; Stratigraphic studies in central Tennessee; Geology of certain areas in eastern Pennsylvania; Geological studies in New York State; Expedition to Borneo and Celebes; Expeditions to the Far East; the "Tomas Barrera" Expedition in western Cuba; Experiments with Cerions in the Florida Keys; Bird studies in Illinois; Cactus investigations in Peru, Bolivia, and Chile; Botanical explorations in New Mexico and Texas; Collecting fossils on Chesapeake Bay; Anthropological investigations in Guatemala; Anthropological researches in Africa and Siberia; Preparation of exhibits illustrating the natural history of man; Prehistoric remains in New Mexico; Further study of the Cherokee sacred formulas; The sun and the ice people among the Tewa Indians of New Mexico; Work among the Iroquois; Osage songs and rituals; Preservation of Indian music; Ethnological researches among the Kalapuya Indians; Investigations among the Stockbridge, Brotherton, and Fox Indians; Studies of solar radiation.

Explorations and field-work of the Smithsonian Institution in 1915.

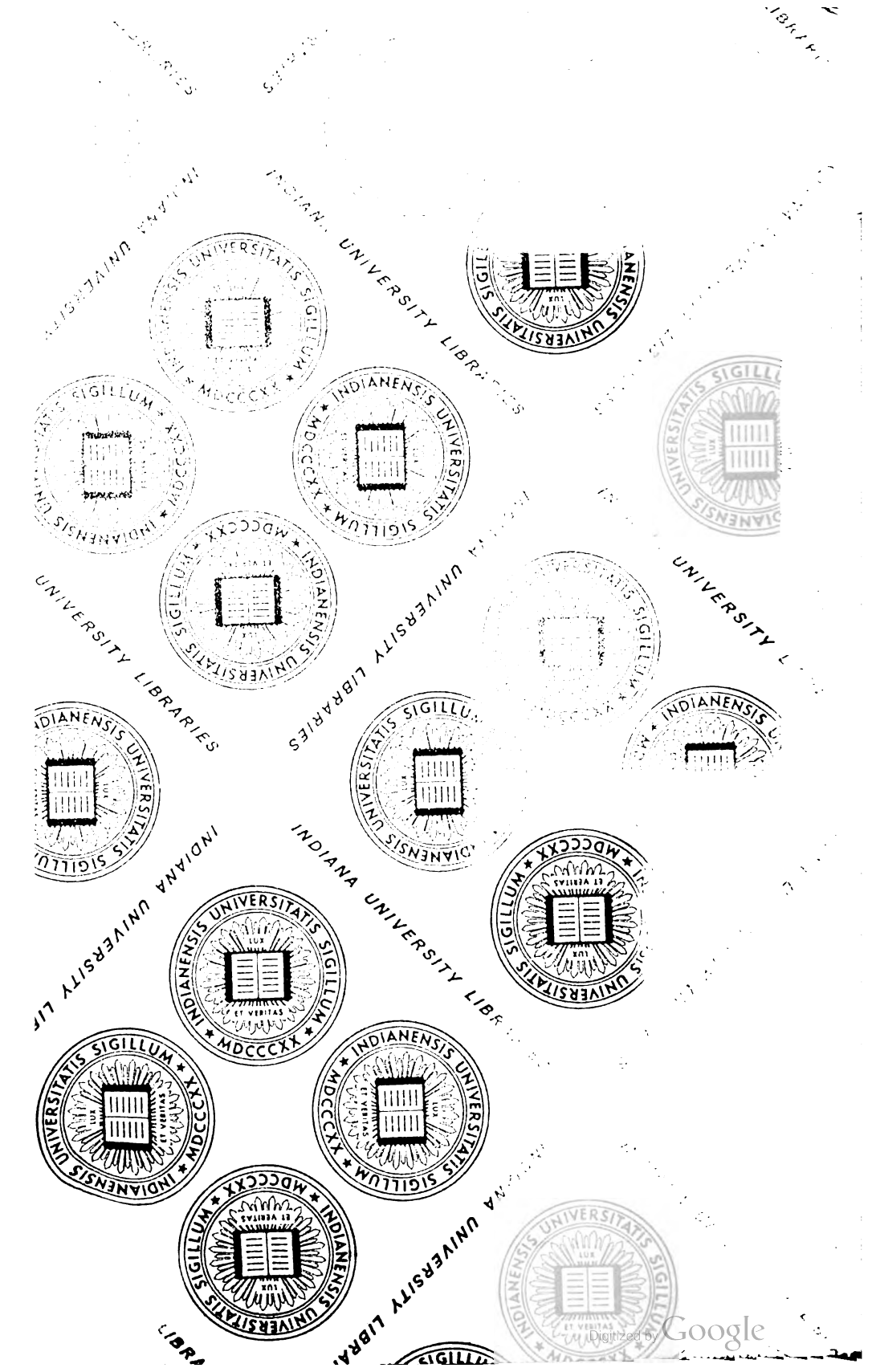
Smithsonian Misc. Colls.,
66, No. 3, May 27, 1916,
pp. 1-119, figs. 1-141.

Covers the following expeditions, from the majority of which the Museum also obtained material: Geological explorations in the Rocky Mountains; The Indiana mastodon; Paleontological and stratigraphic studies in the Paleozoic rocks; Explorations in Siberia; Collecting fossil echinoderms in the Ohio valley; Geological work in Pennsylvania and Virginia; Geological specimens from New Zealand; Expedition to Borneo and Celebes; Explorations in China and Manchuria; Work by Copley Amory, jr., in eastern Siberia; Experiments with Cerions on the Florida Keys; Biologic study of Chesapeake Bay; Expedition to St. Thomas, Danish West Indies; Cactus investigations in Brazil and Argentina; Shell mounds on the Pacific coast; Archeological reconnaissance in western Utah; Trip to the Chippewa Indians of Minnesota; The Nacoochee mound in Georgia; Prehistoric remains in Arizona, New Mexico, and Colorado; Ethnological researches in Oregon and Washington; Work among the Fox and Sauk Indians; Studies among the Cayuga Indians; Study of Indian music; Osage war rites; Ethnological work among the Natchez, Creek, and Chickasaw Indians; Work among the Indians of California and Arizona; Experimental flights with the original Langley aerodrome; Fog clearing investigations; Studies in solar radiation.





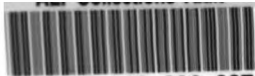








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